

APRIL/FY06

FORT WAINWRIGHT
Alaska

**Army Defense Environmental
Restoration Program
Installation Action Plan**

FINAL 28 July 2006

Table of Contents

Table of Contents	1
Statement of Purpose	3
Acronyms and Abbreviation	4
Site Conversions	7
Installation Information	8
Cleanup Program Summary	10
IRP Program	12
Summary	13
Contamination Assessment	14
Previous Studies	18
IRP Active Sites	48
FTWW-003 Aircraft Main (Bldg 2077)	49
FTWW-038 Ft Wainwright Landfill Plume	50
FTWW-047 DRMO Salvage Yard	51
FTWW-050 North Post Site	53
FTWW-055 Fairbanks Fuel Terminal	54
FTWW-067 801 Drum Burial Site	56
FTWW-072 Oil Water Separator at Bldg 1168	57
FTWW-083 Railroad Off-Loading Facility	58
FTWW-084 Fairbanks-Eielson Pipeline Spills	59
FTWW-085 UST, Bldg 5110	60
FTWW-087 UST, Bldg 2111 & 2112	61
FTWW-094 Former Quartermaster's Fueling System East/West	62
FTWW-095 UST, Bldg 1002	65
FTWW-096 Birch Hill ASTs	66
FTWW-097 UST, Bldg 1168	67
FTWW-099 UST, Bldg 3564	68
FTWW-100 UST, Bldg 2250	69
FTWW-101 Neely Road POL Point	70
FTWW-102 Communication Site	71
IRP No Further Action Sites Summary	73
IRP Schedule	78
IRP Costs	82
Military Munitions Response Program	83
Summary	84
Contamination Assessment	85
MMRP Active Sites	86
FTWW-001-R-01 TA-105	87
FTWW-002-R-01 TA-101	88
FTWW-003-R-01 TA-107	89

Table of Contents

<i>FTWW-004-R-01 Arctic Survival Area-Ski Slope</i>	<i>90</i>
<i>FTWW-005-R-01 Machine Gun Square</i>	<i>91</i>
<i>FTWW-007-R-01 Yukon River</i>	<i>92</i>
<i>FTWW-008-R-01 Bombing From Wainwright to Greely</i>	<i>93</i>
<i>FTWW-009-R-01 Solid Waste Landfill</i>	<i>94</i>
<i>FTWW-010-R-01 DTA Rifle Range</i>	<i>95</i>
<i>MMRP No Further Action Site Summary.....</i>	<i>96</i>
 MMRP Schedule	97
MMRP Costs	99
 Community Involvement	100

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations, necessary remedial actions, and long term maintenance.

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), Fort Wainwright, executing agencies, and regulatory agencies an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan during a planning workshop held on 5 April 2006:

Company/Installation/Branch

ADEC

CEMML/USAGAK

CRREL

CSU - US Army Alaska

DPW, USAGAK

DPW, FRA

DPW, FWA

Engineering and Environment, Inc. for USAEC

USAEC

USEPA

US Army, Fort Wainwright

Acronyms & Abbreviations

AI	Active/Inactive
ADC	Alaska Defense Command
ADEC	Alaska Department of Environmental Conservation
ADF	Alaska Defense Force
AEDB-R	Army Environmental Database - Restoration
AFB	Air Force Base
AST	Aboveground Storage Tank
bgs	below ground surface
BLM	Bureau of Land Management
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
CAIS	Chemical Agent Identification Sets
CAP	Corrective Action Plan
CC	Compliance-Related Cleanup
CEMML	Center for Environmental Management of Military Lands
CERCLA	Comprehensive Environmental Response Compensation and Liability Act (1980)
CLOSES	Cleanup Operations and Site Exit Strategy
COC	Contaminants of Concern
CTC	Cost-to-Complete
cy	cubic yards
DD	Decision Document
DES	Design
DOL	Directorate of Logistics
DRO	Diesel Range Organics
ER,A	Environmental Restoration, Army (formerly called DERA)
FFA	Federal Facility Agreement
FS	Feasibility Study
ft	foot
FTRS	Fort Richardson
FTWW	Fort Wainwright
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
GIS	Geographic Information System
GRO	Gasoline Range Organics
GSA	Government Services Agency
HVE	High Vapor Extraction
IAP	Installation Action Plan
IC	Institutional Control
IMP(C)	Implementation (Construction)
IMP(O)	Implementation (Operation)
INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Program

Acronyms & Abbreviations

ISC	Initial Site Characterization
K	\$1,000
kg	kilograms
LTM	Long-Term Management
MCL	Maximum Contaminant Level
MEC	Munitions Explosive Constituents
MEK	methyl ethyl ketone
mg	milligrams
MMRP	Military Munitions Response Program
ND	Not Detected
NE	Not Evaluated
NFA	No Further Action
NFRAP	No Further Remedial Action Planned
NOV	Notice of Violation
NPL	National Priorities List
OU	Operable Unit
PA	Preliminary Assessment
PAH	Polynuclear aromatic Hydrocarbons
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
POL	Petroleum, Oil & Lubricants
POM	Program Objective Memorandum (budget)
PP	Proposed Plan
ppm	parts per million
RA	Remedial Action
RAB	Restoration Advisory Board
RAO	Remedial Action Objectives
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RCRA-I	Resource Conservation and Recovery Act Subtitle I
RD	Remedial Design
REM	Removal
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
ROST	Rapid Optical Screening Tool
RRO	Residual Range Organics
RRSE	Relative Risk Site Evaluation
SA	Site Assessment
SI	Site Inspection
SPH	Six Phase Heating
SVE	Soil Vapor Extraction
SWMU	Solid Waste Management Unit

Acronyms & Abbreviations

TAPP	Technical Assistance for Public Participation
TCA	Trichloroethane
TCE	Trichloroethylene
TCM	Troop Medical Clinic
TMP	Troop Motor Pool
TRPH	Total Recoverable Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
µg/l	micrograms per liter
USACE	US Army Corps of Engineers
USAEC	US Army Environmental Center
USAG-AK	US Army Garrison-Alaska
USARAK	US Army, Alaska
USARPAC	US Army, Pacific
USEPA	US Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
yr	Year

AEDB-R to Alias Conversion

AEDB-R #	Alias
FTWW-003	2PTY/3A
FTWW-038	OU4/1A
FTWW-047	OU2/1A
FTWW-050	2PY/REM/2A
FTWW-055	OU3/1A
FTWW-067	OU1/1A
FTWW-072	OU2/3A
FTWW-083	OU3/1A
FTWW-084	OU3/1A
FTWW-085	UST-LTM/3A
FTWW-087	USTR/2A
FTWW-094	OU5/1A
FTWW-095	USTR/3A
FTWW-096	OU5/2A
FTWW-097	USTR/3A
FTWW-099	USTR/2A
FTWW-100	USTR/3A
FTWW-101	2P/1A

Installation Locale: Fort Wainwright is situated in Central Alaska within the Fairbanks North Star Borough, and is located on the eastern boundary of the city of Fairbanks, the state's second largest city. Fort Wainwright consists of 915,000 acres, including the main post cantonment area that is approximately 4,500 acres, 8,825 acres of ranges and 898,306 acres for military maneuvers.

Installation Mission: US Army Alaska (USARAK), which consists of two installations, Fort Wainwright and Fort Richardson, executes continuous training and readiness oversight responsibilities for Army Force Generation in Alaska. USARAK also provides Pacific Region with focused, early entry battle command capability for US Army Pacific and Joint Force Land Component Commander for Homeland Defense and Security in Alaska.

Lead Organization:

Installation Management Command, Pacific Region

Lead Executing Agencies:

IRP Executor:

US Army Garrison-Alaska

US Army Corps of Engineers, Alaska District

Regulatory Participation

Federal: US Environmental Protection Agency, Region X.

State: Alaska Department of Environmental Conservation

National Priorities List (NPL) Status:

1990 National Priority List (NPL) with Federal Facility Agreement (FFA)

Two party agreement that covers UST and POL sites

Projected Dates for Construction Completion: 2002

Projected Date for NPL Removal: Unknown

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status:

A Restoration Advisory Board was established in 1997. The RAB was adjourned in July 2003 due to decreased attendance and upon the Community Co-Chair's recommendation.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Benzene, DRO, PCB, PCE, TCE, VOCs, Solvents, Metals, Pesticides

Affected Media of Concern: Soil, Groundwater

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 2005/Indefinite

Funding to date (up to FY05): \$130,527K

Current year funding (FY06): \$2,712K

Cost-to-Complete (FY07+): \$22,744K

MMRP

Primary Contaminants of Concern: UXO

Affected Media of Concern: Soil

Estimated Date for RC: 2017

Funding to date (up to FY05): \$397K

Current year funding (FY06): \$0K

Cost-to-Complete (FY07+): \$45,945K

Cleanup Program Summary

Installation Historic Activity

The US Army Fort Wainwright has been used by the Department of Defense (DOD) for military operations continuously since 1938. Originally known as Ladd Army Airfield (LAAF), the post was established to test aircraft operations in arctic conditions. When war broke out with Japan in late 1941, Ladd Field became a critical link in the Alaska-Siberia Lend Lease route. From 1942 until the fall of 1945, American crews flew almost 8,000 aircraft to Ladd Field, where the planes were turned over to Soviet aircrews for the continued flight to the east. The planes were eventually used by the Soviets against Germany.

In 1947, the newly formed US Air Force (USAF) assumed control of LAAF, which was redesignated as Ladd Air Force Base (LAFB). LAFB served as a resupply and maintenance base for the Remote Distant Early Warning (DEW) sites and experimental ice stations in the Arctic Ocean. During the Korean conflict, LAFB served as part of the defense network, and was the site of the first Nike Hercules Missile launch from a tactical missile site in December 1959.

On Jan. 1, 1961, the Army reassumed control of Ladd Field and renamed the installation Fort Wainwright, after Gen. Jonathan M. Wainwright. Since that time, Fort Wainwright has been home to several units, including the 171st Infantry Brigade (Mechanized), a Nike-Hercules battalion, the 172nd Infantry Brigade, and the 6th Infantry Division (Light).

The major unit at Fort Wainwright today is the 1st Stryker Brigade Combat Team, 25th Infantry Division. Subordinate commands include the 2nd Battalion, 1st Infantry Regiment; 1st Battalion, 17th Infantry Regiment; 4th Battalion, 11th Field Artillery; 172nd Brigade Support Battalion; and the 4th Squadron, 14th Cavalry Regiment. The fort has 4,800 Soldiers and approximately 4,900 family members. About 1,100 Army and DoD civilian employees work at Fort Wainwright.

Fort Wainwright was proposed for inclusion on the CERCLA National Priorities List (NPL) in July 1989, due to releases of hazardous substances, pollutants, and contaminants into the environment. It was listed final in August 1990. A Federal Facilities Agreement (FFA) was signed by the US Environmental Protection Agency (EPA, Region 10), the Alaska Department of Environmental Conservation (ADEC), and the US Department of the Army in March 1992. This agreement sets deadlines, objectives, responsibilities, and procedural framework for implementing the Installation Restoration Program (IRP) at Fort Wainwright.

IRP

- Prior Year Progress: Determine if additional action is required at the Birch Hill Tank Farm Aboveground Storage Tank Site, completion of Five-Year Review, begin Remedial Investigation/Feasibility Study at PCB contaminated site ("Communication Site") discovered in FY05, continue using the CLOSES evaluations to reduce O&M requirements, and determine if sufficient interest exists to warrant reactivation of RAB
-

Cleanup Program Summary

- Future Plan of Action: Complete Remedial Investigation/Feasibility Study at PCB contaminated site ("Communication Site") and determine future action(s) required, continue using the CLOSES evaluations to reduce O&M requirements, and close sites as contamination decreases and risks minimized or eliminated

MMRP

- Prior Year Progress: Preliminary Assessment (PA) completed at all sites. A Site Investigation (SI) has been initiated at all sites.
- Future Plan of Action: The installation plans to complete the SI and Remedial Investigations/ Feasibility Studies (RI/FS) by 2010 and execute follow on phases/actions as required in the individual site cleanup strategies.

FORT WAINWRIGHT

Installation Restoration Program

Total AEDB-R IRP Sites/AEDB-R Sites with Response Complete: 79/59

Different Site Types:

2 Above Ground Storage Tanks	13 Contaminated Buildings
1 Contaminated Fill	1 Contaminated Sediment
2 Explosive Ordnance Disposal Areas	1 Fire/Crash Training Area
4 Landfills	1 Oil Water Separator
3 POL (Petroleum/Lubricants) Lines	12 Spill Site Areas
5 Storage Areas	5 Surface Disposal Areas
26 Underground Storage Tanks	3 Unexploded Munitions/Ordnance

Most Widespread Contaminants of Concern: Benzene, DRO, PCB, PCE, TCE, VOCs, Solvents, Metals, Pesticides

Media of Concern: Soil, Groundwater

Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA):

1988

RA(C), FTWW-020, August

RA(C), FTWW-024, September

1989

IRA, FTWW-004, June

IMP(C), FTWW-057, July

IRA, FTWW-053, July

1990

IRA, IMP(C), FTWW-052, January

IRA, FTWW-056, -057, -058, -088, August

IRA, FTWW-061, September

1991

IMP(C), FTWW-053, -054, January

IRA, FTWW-054, January

IRA, FTWW-062, -063, September

IRA, FTWW-098, July

1992

IRA, FTWW-073, October

IRA, FTWW-086, July

1993

IMP(C), FTWW-060, November

RA(C), FTWW-077, June

RA(C), FTWW-079, -080, February

1993 (cont.)

RA(C), FTWW-081, September
IRA, FTWW-082, -093, June
IRA, FTWW-090, September

1994

IRA, FTWW-011, -097, September
IMP(C), FTWW-057, August
RA(C), FTWW-062, September
IRA, FTWW-064, -072, June
RA(C), FTWW-073, November
IRA, FTWW-095, May
IRA, FTWW-099, -100, August

1995

IMP(C), FTWW-049, -100, September
RA(C), FTWW-072, April
RA(C), FTWW-082, -098, October
IRA, FTWW-085, October
IRA, FTWW-087, November
RA(C), FTWW-095, September

1996

RA(C), FTWW-037, September
IRA, RA(C), FTWW-050, April
IRA, FTWW-055, July
RA(C), FTWW-056, -099, June
IMP(C), FTWW-086, September
IMP(C), FTWW-087, July
IRA, IMP(C), FTWW-091, October

1997

RA(C), FTWW-011, -038, September
IRA, FTWW-067, October
IRA, FTWW-084, August
IMP(C), FTWW-085, February
IRA, RA(C), FTWW-089, June

1998

RA(C), FTWW-047, March
IRA, FTWW-094, July

1999

IRA, FTWW-083, September
IRA, FTWW-096, March

2000

RA(C), FTWW-083, July

RA(C), FTWW-084, September

2001

RA(C), FTWW-055, January

RA(C), FTWW-067, June

RA(C), FTWW-094, September

RA(C), FTWW-097, February

2004

RA(C), FTWW-003, September

2005

RA(C), FTWW-101, September

Total IRP Funding

Prior years (up to FY05): \$130,527K

Current year funding (FY06): \$ 2,712K

Future Requirements (FY07+): \$ 22,744K

Total: \$155,983K

Duration of IRP

Year of IRP Inception: 1988

Year of IRP RIP/RC: 2005/Indefinite

Year of IRP Completion including Long-Term Management (LTM): Indefinite

IRP Contamination Assessment

IRP Contamination Assessment Overview

Fort Wainwright has two active sites in RA(C), 8 sites in RA(O) and 8 sites in LTM. All known sites have been evaluated and fifty-nine sites have been closed or considered no further remedial action planned (NFRAP). The remaining active sites have been investigated under various Operable Units (OUs) or a signed Two-Party Agreement that covers POL sources.

Fort Wainwright was proposed for placement the CERCLA National Priorities List (NPL) in July 1989, due to releases of hazardous substances, pollutants, and contaminants into the environment. The Army's investigation of contaminated sites at Fort Wainwright under the Installation Restoration Program (IRP) began in 1989, and the post was added to the CERCLA National Priorities List in 1990. EPA Region 10 and the ADEC began working closely with the Army to better understand the nature and extent of contamination at Fort Wainwright and its threat to human health and the environment. The three parties negotiated the Fort Wainwright NPL Site FFA, which was signed in 1992, and the Army and ADEC also entered into a Two-Party Agreement to address POL sites also in 1992.

Attachment I to the FFA describes the investigation and restoration approach agreed upon by the Army and the regulatory agency parties to the agreement. As of the signing of the FFA, 41 potential contaminant source areas were identified as warranting inclusion into OUs and 57 POL sources were identified through previous studies, reports and interviews. No further action was planned for 27 potential source areas based on the screening criteria outlined by the restoration project managers. The history of the contamination and remediation of source areas are summarized in the site histories in this report.

In FY99, an Independent Technical Review (ITR) was conducted at Fort Wainwright, focusing on the three source areas associated with Operable Unit 3 (FTWW-055, Fairbanks Fuel Terminal; FTWW-083, the Railroad Off-Loading Facility; and FTWW-084, the Fairbanks-Eielson Pipeline Spills). The final report from this ITR indicated that the remedial actions underway were correct, adequate, and the most cost efficient ways to reach clean-up goals. An ESD was signed in Sept 2001 addressing the additional costs and recommended action.

Petroleum persistence remains a topic of negotiation in closing sites in Alaska. The Army continues to work with the state of Alaska to minimize monitoring requirements and close sites with persistent remaining petroleum contamination that pose no risk. The first five year review was completed in September 2001, with minimal recommended actions required.

IRP Cleanup Exit Strategy

FWA continues to work toward the closure of sites by evaluating system operations data, monitoring results, and other changes in site and field conditions on a quarterly basis. These results are discussed with the regulators and agreements are reached as to reductions in system operations, decreases in monitoring parameters and quantities, etc.

IRP Contamination Assessment

The Army has adopted the 'Cleanup Operations and Site Exit Strategy' (CLOSES) format as a way to evaluate sites and determine the next stop, whether it be continued operations, reduced monitoring, or site closure. This model was presented at the DERA Conference in November 2004 as an easily-adaptable formula which can result in significant cost savings.

The Army will continue to use these methods to ramp down cleanup operations at the FWA installation. Installation will continue to track ICs using a GIS database and implement the IC policy to prevent accidental exposure to contaminants.

1983

- Installation Assessment of Ft. Richardson and Sub-installations: Ft. Greely and Ft. Wainwright, Env. Science & Eng., Operable Unit 1, Sep-83

1986

- Ft. Richardson and Fort Wainwright Monitoring Wells 1985, 1986, and 1987, Env. Science & Eng., Feb-86
- Endangerment Assessment for FTW 150 Unit Family Housing Project-Data Acquisition Plan, OU2, URS Corporation, Oct-86
- Side Scan Sonar Survey and Diver Inspection of Blair Lakes, Blair Lakes, Tanana Flats, Operable Unit 1, Northern Tech. Svcs., Nov-86
- Blair Lakes Drum Mapping and Sample Analysis, Blair Lakes, Ft. Wainwright, OU1, URS Corporation, Dec-86

1987

- Confirmation Study: Endangerment Assessment for FTW Family Housing Area, Volume 1 of 2
URS Corporation, OU2, Apr-87
- Confirmation Study: Endangerment Assessment for FTW Family Housing Area, Executive Summary, OU2, URS Corporation, Apr-87
- FTW River Road Drum Site Survey Findings, OU1, Harding Lawson Assoc., Sep-87

1988

- Risk Assessment for Proposed Family Housing Facilities, OU2, Ecology & Environment, Nov-88

1989

- Groundwater Monitoring Landfill Plume, QA Report and Chemical Analysis, OU4, Corps of Engineers, Ak. Dist., Oct-89
- Fairbanks-Eielson POL Pipeline Soil Gas Survey, MAPCO Refinery, Eielson AFB, OU3, Hart Crowser, Dec-89

1990

- Ft. Wainwright Landfill Workplan, OU4, Ecology & Environment, Feb 90
- US Army IRP, The North Post Site, FTW, Environmental Assessment, OU2, Corps of Engineers, AK. Dist, May 90

1991

- Work Plan for the Remediation of Contaminated Soil Stockpiles, OU5, Ecology & Environment, Mar 91
- Final FI Plan for the confirmation of Fire Training Pits, OU4, Ecology & Environment, Apr 91
- Design Analysis for Soil Remediation Project at North Post, OU2, Ecology & Environment, May 91
- Ft. Wainwright Landfill Report, OU4, Ecology & Environment, Jun 91

1991 (cont.)

- Final Report, Power Plan Coal Yard, Corps of Engineers, Jul 91
- Results of Chemical Analyses for FTW Fire Training Pits, OU4, Corps of Engineers, Ak. Dist., Aug-91
- Project Report for Soil Sampling and Building Demolition Bldg. #1567, OU1, OHM Remed. Svcs., Aug 91
- Fairbanks Fuel Terminal, Part I, Sampling/Analysis, QA/QC Plan, OU3, Ecology & Environment
- Hydrogeology at the Fairbanks Fuel Terminal, OU3, Ecology & Environment, Sep 91
- Solid Waste Management Plan, Preliminary Source Evaluation, OU2, Harding Lawson Assoc., Oct 91
- Chemical Data Acquisition Plan, Fairbanks Fuel Terminal, MAPCO Refinery, OU3, Ecology & Environment, Nov 91

1992

- Fairbanks Fuel Terminal Work Plan Part I Sampling Analysis Plan, OU3, Ecology & Environment, Jan 92
- Records Search, Preliminary Source Evaluation, OU1, Harding Lawson Assoc., Feb-92
- Progress Report for the Confirmation of Fire Training Pits, OU4, Ecology & Environment, Feb 92
- Work Plan Documents, Birch Hill UST Site, OU5, Ecology & Environment, Apr 92
- Compliance Agreement between the ADEC and the US Army, 6th Infantry Division, Alaska Department of Environmental Conservation, Apr-92 Work Plan, OU2, PSE2, Phase 1, Harding Lawson Assoc., May-92
- Ground Penetrating Radar Studies, FTW Hazardous Materials Site, 30 March - 17 April 1992, Preliminary Report, US Army Cold Regions Research Engineering Lab, May 92
- Draft IRP Conceptual Model for OU3: Fairbanks Fuel Terminal, Rail Off-Loading Facility, Fairbanks-Eielson Pipeline, OU3, Corps of Engineers, Ak. Dist., May-92
- Groundwater Monitoring Network, Alaska District Corps of Engineers, Aug 92
- Work Plan, DRMO, OU2, PSE2, Phase 2, 2 Vols., Harding Lawson Assoc., Sep-92
- Draft Potential Interim Remedial Actions, OU3, Ecology & Environment, Sep 92
- Analysis of Radar Profiles for Chemical Waste Sites, OU2, US Army Cold Regions Research Engineering Lab, Oct-92
- Draft Potential Interim Remedial Actions, OU3, Ecology & Environment, Oct 92
- Work Plan Documents Underground Storage Tank Sites, Ecology and Environment, Nov-92

1993

- Draft Potential Interim Remedial Actions, OU3, Ecology & Environment, Jan-93
- Final Management Plan, RI/FS, OU3, Ecology & Environment, Jan-93
- US Army Buildings 5001 and 5006 UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jan-93
- Draft Final Community Relations Plan, OU3, Ecology & Environment, Jan-93
- Final Management Plan, OU3, Ecology & Environment, Feb-93

1993 (cont.)

- Remedial Investigation, Volumes 1 thru 4, Ecology & Environment, Feb-93
- Operations Final Report for Drummed Waste Removal, 4 Vol, OHM Remedial Services, Feb
- Sampling and Analytical Final Report, FTW: Final Report-Drum Waste Removal, Volume II, OHM Remedial Services, Feb-93
- Draft Final Management Plan for RI/FS, OU4, Ecology & Environment, Mar-93
- Project Report Nike Sites B, C, Yukon Command Training Center, Ecology & Environment, Mar-93
- Area Wide Community Relations Plans FTW, Ecology & Environment, Apr-93
- Final Management Plan, OU4, Ecology & Environment, Apr-93
- Final OU2, Preliminary Source Evaluation 2, Phase 1, 3 Vol, Harding Lawson Assoc., Apr-93
- Temporary Stockpile Plan North Post Site, Laidlaw Env. Svcs., Apr-93
- Biopile Work Plan North Post Site Remediation, Laidlaw Env. Svcs., Jun-93
- Farmer's Loop Research Area, Site History, Fairbanks North Star Borough, Off-Site, US Army
- Cold Regions Research Engineering Lab, Jun-93
- Groundwater Monitoring Report, FTW, 2 Volumes, Alaska District Corps of Engineers, Jun-93
- Background Values for Arsenic and Barium at FTW, Alaska District Corps of Engineers, Jun-93
- Groundwater Monitoring Report for Fort Wainwright- Post-Wide, Alaska District Corps of Engineers, Jun-93
- Work Plan, OU2, PSE2, Support Work, FTW, All Areas, Harding Lawson Assoc., Jul-93
- OU2, Preliminary Source Evaluation 2, Support Work, All Areas, Harding Lawson Assoc., Jul-93
- Soil and Groundwater Assessment Additional UST Sites, Ecology and Environment, Jul-93
- Site Assessment/Corrective Action Plan Former Building 1514 (Site 1) Tanks 221-224, Alaska District Corps of Engineers, Jul-93
- Site Assessment/Corrective Action Plan Former Building 3481 (Site 4) Tanks 275 & 276, Alaska District Corps of Engineers, Jul-93
- Site Assessment/Corrective Action Plan Former Building 1546 (Site 2) Tanks 227-233, Alaska District Corps of Engineers, Jul-93
- Site Assessment/Corrective Action Plan Former Building 3483 (Site 5) Tanks 277 & 278, Alaska District Corps of Engineers, Jul-93
- Site Assessment/Corrective Action Plan Former Building 4247 (Site 6) Tank 309, Alaska District Corps of Engineers, Jul-93
- Site Assessment/Corrective Action Plan Former Building 5110 (Site 7) Tank 317, Alaska District Corps of Engineers, Jul-93
- Corrective Action Plan PX Service Station Underground Storage Tank Site, Ecology and Environment, Inc., Aug-93

1993 (cont.)

- Final Work Plan, Phase II Site Investigation, Bldg. #1565, Harding Lawson Assoc., Aug-93
- Informational Repository, Administrative Record, CH2M Hill, Sep-93
- PSE2, Phase 2, DRMO, FTW 2 Volumes, Harding Lawson Assoc., Sep 93
- Final Work Plan, FFA, OU1, PSE2, Chemical Agent Dump Site, West Birch Hill, OU1. Harding Lawson Assoc., Sep 93
- Record Search 2, OU1, Harding Lawson Assoc., Sep 93
- Final Report, OU2, PSE2, Phase 2, DRMO, FTW 2 Volumes, Harding Lawson Assoc., Sep-93
- Geological and Geophysical Analyses of Permafrost and Groundwater Conditions, US Army Cold Regions Research Engineering Lab, Oct-93
- Work Plan, Limited Site Investigation, Farmer's Loop Dump Site, Fairbanks North Star Borough, Off-Site, Dames and Moore, Nov-93
- Final Summary Report on the 1993 Microwell Field Program at Fort Wainwright and the Farmer's Loop Research Area, US Army Cold Regions Research Engineering Lab, Nov-93
- US Army Building 3479, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Nov-93
- Site Release Investigation Report Delivery Order 3, CH2M Hill, Dec-93
- Site Release Investigation Report Delivery Order 4, CH2M Hill, Dec-93
- Risk Assessment for Underground Storage Tank Site No. 317, Ecology and Environment, Inc., Dec-93
- Background Data Analysis for Arsenic, Cadmium, Chromium, and Lead on Fort Wainwright, Alaska District Corps of Engineers, Dec-93

1994

- Phase II Site Investigation, Building 1565, Harding Lawson Assoc., Jan-94
- Work Plan for North Post Plume Investigation, OU5, US Corps of Engineers, AK Dist., Jan-94
- Draft Preliminary Source Evaluation 2, Support Work, 801 Drum Burial Site, Harding Lawson Assoc., Feb-94
- Operable Unit 4 Data Presentation, Ecology & Environment, Feb-94
- Preliminary Source Evaluation 2, Blair Lakes and Drum Sites, Blair Lakes, Tanana Flats Training Area, Cantonment Area, Harding Lawson Assoc., Mar-94
- Operable Unit 1, Preliminary Source Evaluation 2, 2 Vols., Harding Lawson Assoc., Apr-94
- Final Preliminary Source Evaluation 2, Chemical Agent Dump Site, West Birch Hill, East of Fairbanks Fuel Terminal, OU1., Harding Lawson Assoc., Apr-94
- Operable Unit 2, Preliminary Source Evaluation 2, Support Work, Bldg. 1168, Harding Lawson Assoc., Apr-94
- Final Management Plan, Operable Unit 2, Remedial Investigation/Feasibility Study, Harding Lawson Assoc., Apr-94

1994 (cont.)

- North Post Site, Soil Pile Remediation, Contract DACA85-91-C-0043, Project Report, Laidlaw Env. Svcs., Apr-94
- Technical Specifications, Remedial Action, Yukon Maneuver Area Nike Sites B and C, Yukon Maneuver Area, Ecology & Environment, Apr-94
- Work Plan and Sampling Plan, Potential Off-site Groundwater Contaminant Migration, West Boundary, Shannon & Wilson, Apr-94
- Phase II Site Investigation, Building 1565, Trip Report March/April Sampling Event, Harding Lawson Assoc., May-94
- Building 1060 Treatability Study Plan, Delivery Order 10, CH2M Hill, May-94
- PX Service Station Treatability Study Plan, Delivery Order 11, CH2M Hill, May-94
- Site Release Investigation, Delivery Order 2, Building 2111, Vessel Integrity Evaluation, CH2M Hill, May-94
- Approach Document for the Baseline Human Health Risk Assessment, OU4, Ecology & Environment, Jul-94
- Final Phase II Site Investigation, Building 1565, , Harding Lawson Assoc., Jul-94
- 1993 Summary Report of GW for Ft Wainwright, Post Wide, EMCON/America North, Aug-94
- Remedial Investigation Report, OU4, Ecology & Environment, Aug-94
- Geological and Geophysical Investigations of the Hydrogeology of Operable Unit 3, Interim Draft Report, A Contribution to OU3 Remedial Investigations, US Army Cold Regions Research & Engineering Laboratory, Aug-94
- Site Release Investigation Report, Delivery Order 2, CH2M Hill, Aug-94
- Site Release Investigation Report, Delivery Order 3, CH2M Hill, Aug-94
- Site Release Investigation Report, Delivery Order 4, CH2M Hill, Aug-94
- UST Sites Investigation, Delivery Order 9, CH2M Hill, Aug-94
- Site Release Investigation, Delivery Order 2, Fort Wainwright, Alaska, 2 Vols, Buildings 2111 and 2112, CH2M Hill, Aug-94
- Final Groundwater Monitoring April 1994 Sampling Event, Fort Wainwright Picket Wells, EMCON Alaska, Inc., Aug-94
- Final Fort Wainwright 1993 Groundwater Summary Report, 2 Vols., EMCON Alaska, Inc., Sep-94
- Modeling of Groundwater Flow and Contaminant Transport at Ft. Wainwright, AK - summary of Project Activities Relating to the Fuel Terminal Area of OU3, An Interim Report, Army Cold Regions Research & Engineering Lab, Water Research Center, University of Alaska, US Geological Survey, Water Resource Division, Sep-94
- Modeling of Groundwater Flow & Contaminant Transport - Summary of Project Activities Relating to the Fuel Terminal Area of OU3 - An Interim Report, Ft. Wainwright and Farmer's Loop Research Station, US Geological Survey and US Army Cold Regions Research Engineering Laboratory, Sep-94
- PX Service Station Treatability Study, Interim Report, Delivery Order 11, CH2M Hill, Sep-94
- Chemical Data Report, Small Arms Range (EOD), Alaska District Corps of Engineers, Oct-94

1994 (cont.)

- Chemical Data Report for the Fort Wainwright Small Arms Range, OU5, US Corps of Engineers, AK Dist., Oct-94
- Bldg 1060 Treatability Study, Interim Report, Delivery Order 10, CH2M Hill, Oct-94
- Corrective Action Plan, Delivery Order 2, CH2M Hill, Oct-94
- Corrective Action Plan, Delivery Order 3, CH2M Hill, Oct-94
- Corrective Action Plan, Delivery Order 4, CH2M Hill, Oct-94
- Risk Assessment Approach Document, OU4, Ecology & Environment, Nov-94
- Final OU2 Management Plan, Harding Lawson Assoc., Nov-94
- Farmer's Loop Dump Site, Dames and Moore, Dec-94
- Work Plan Building 1168, Treatability Study, Harding Lawson Assoc., Dec-94
- Draft Site Assessment Report, Removal of Building 2112 with 3 USTs, Associated Piping and Vaults, Remediation of Contaminated Soil, and Removal of Contaminated Soil from Site 4 (Building 3481) 2 Vols., Shannon & Wilson, Inc, Dec-94

1995

- OU2, Baseline Human Health Risk Assessment Approach, Harding Lawson Assoc., Jan-95
- Interim Report Building 1168 Treatability Study, OU2, Harding Lawson Assoc., Jan-95
- Stockpile Characterization Report, Appendix D, Parts 1-3, Linder Construction, Inc, , AGRA Earth & Environmental, Jan-95
- Release Investigation Report, Building 3564, Harding Lawson Assoc., Jan-95
- Preliminary Release Investigation Report, South Airfield Buildings 2111 and 2112, Harding Lawson Assoc., Feb-95
- Supplemental Data, Railroad Offloading Facility, Building 5110, ENSR Consulting and Engineering, May-95
- Field Report/Site Assessment for Remedial Action, Birch Hill Terminal, 2 Vols. , Environmental Management, Inc., May-95
- Petroleum, Oil, and Lubricant Status Report, EMCON Alaska, May-95
- Final Groundwater Monitoring, October 1994 Sampling Event, Fort Wainwright Picket Wells, EMCON Alaska, Inc., Mar-95
- Contaminant Transport Processes at Fort Wainwright, Alaska, Operable Unit 3, Fuel Terminal Area, Results of Tracer Studies, Water Research Center, University of Alaska Fort Wainwright Drilling, Sampling, Well Installation, Agra, Earth & Environment, Mar-95
- Chemical Data Report, Groundwater Monitoring, 9 Supply Wells, Alaska District Corps of Engineers, May-95
- Alaska Thermal Remediation Project Report, 6 Vols., Environmental Services, Inc, May-95
- Human Health Risk Assessment, Operable Unit 2, Harding Lawson Assoc., Jun-95
- Final Comprehensive Site Investigation, Alaska Field Station, Dames and Moore, Jul-95
- Final Release Investigation Report, Birch Hill UST Site No. 355, Abandoned Underground Storage Tank Farm, Ecology and Environment, Inc., Jun-95

1995 (cont.)

- Groundwater Sampling for Storage Tank Sites, Report of Findings, Delivery Order 16, 2 Vols., CH2M Hill, Jul-95
- US Army Building 1191, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95
- US Army Building 2060, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95
- US Army Building 2063, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95
- US Army Building 2092, Golf Course, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95
- US Army Building 4051, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95
- US Army Building 4110A, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95
- US Army Building 4110B, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95,
- US Army Building 5003, UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95
- US Army Washrack Site, (FARP), UST Removal, Site Assessment, & Recommendations, Brown & Root Services Corp, Jul-95
- Record of Decision for Interim Remedial Action, Chemical Agent Dump Site, Operable Unit 1, US Army Alaska, Aug-95
- Final Risk Assessment Report, OU4, Human Health Risk Assessment and Ecological Risk Assessment, Ecology & Environment, Aug-95
- Letter Report, CRREL Flow Probe Well Installation, OU5, Harding Lawson Assoc., Sep-95
- Final Fort Wainwright 1994 Groundwater Summary Report, EMCON Alaska, Inc., Sep-95
- Final Post-wide Risk Assessment Approach Document, OU5, Harding Lawson Assoc., Oct-95
- Final Chemical Report for Building 3018, OU5, US Corps of Engineers, AK Dist., Oct-95
- North Airfield Groundwater Investigation (PSE), OU5, Harding Lawson Assoc., Nov-95
- Feasibility Study Report, OU4, Ecology & Environment, Nov-95
- Groundwater Monitoring, Supply Wells, Summer 1995, Alaska District Corps of Engineers, Nov-95
- Release Investigation Report, North Post Site, OU2, Harding Lawson Assoc., Dec-95
- Final Post-wide Field Sampling Plan, OU5, Harding Lawson Assoc., Dec-95
- Draft Remedial Action Report, OU1, Chemical Agent Dump Site, OHM Remed. Svcs., Dec-95
- Draft Remedial Action Report, Book 1 and Book 2, Government Agency Reports, Chemical Agent Dump Site, OU1, OHM Remed. Svcs., Dec-95

1995 (cont.)

- After Action Review, Chemical Agent Dump Site, OU1, US Army Technical Escort Unit, Dec-95
- Final Release Investigation, South Airfield Buildings 2111, 2112, Harding Lawson Assoc., Sep-95
- Technical Memorandum for the Monitoring Results from 1546 and 3483, Sites Remediation through October 1995, Harding Lawson Assoc., Dec-95

1996

- Operable Unit 2, Final Remedial Investigation Report, 3 Vols, Harding Lawson Assoc., Jan-96
- Technical Memorandum, December 1995 Monthly Monitoring Results, Building 1168 Treatability Study, OU2, Harding Lawson Assoc., Jan-96
- Draft Release Investigations for Buildings 1002, 1168, 2250, ENSR Consulting and Engineering, Jan-96
- PX Service Station Treatability Study Annual Report, Year One, (July 1994 to July 1995), CH2M Hill, Feb-96
- GW Monitoring July 1995 Sampling Event, Picket Wells, EMCON Alaska, Inc., Feb-96
- Draft Ecological Risk Assessment, Operable Unit 1, ENSR Consulting and Engineering, Feb-96
- Release Investigation Report, Building 3015, OU1, AGRA Earth & Environmental, Mar
- Technical Memorandum, January and February 1996 Monitoring Results, Building 1168 Treatability Study, OU2, Harding Lawson Assoc., Mar-96
- Final Report, Release Investigations for Buildings 1002, 1168, and 2250, ENSR Consulting and Engineering, Mar-96
- Technical Memo, Groundwater Probe Investigations at 1546 and 3483 Sites, Harding Lawson Assoc., Mar-96
- Annual Report, 1546 and 3483 Sites Remediation, Harding Lawson Assoc., Mar-96
- Technical Memorandum, January and February 1996 Monitoring 1546 and 3483 Sites Remediation, Harding Lawson Assoc., Mar-96
- Release Investigation Report Bldg 3015, AGRA Earth & Environment, Mar-96
- Comment Annotation UST Release Investigation, Alaska District Corps of Engineers, Apr-96
- Ecological Risk Assessment Operable Unit 2, Harding Lawson Assoc., Apr-96
- OU3, Remedial Design/Remedial Action Statement of Work, Corps of Engineers, Ak. Dist., Apr-96
- Record of Decision for Operable Unit 3, USA, USEPA, ADEC, Apr-96
- Operable Unit 2, Feasibility Study, Harding Lawson Assoc., Apr-96
- GW Monitoring October 1995 Sampling Event Picket Wells, EMCON Alaska, Inc., May
- June 1996 Groundwater Monitoring Event, Picket Wells, Hart Crowser, Jun-96
- Annual Report 1546 and 3483 Sites Remediation, Harding Lawson Assoc., May-96
- Groundwater Sampling for Storage Tank Sites (Bldgs. 1172, 1514, 3425, 3481 and 5110) Report of Findings, CH2M Hill, May-96

1996 (cont.)

- Chemical Quality Assurance Report Bldgs. 1546/3483 (Soils), Alaska District Corps of Engineers, Jun-96
- Release Investigation Report/Corrective Action Plan Nike Site C, Battery Control Building Yukon Command Training Center, Ecology and Environment, Inc., Jun-96
- Remedial Action Objectives, Operable Unit 5 Feasibility Study, Harding Lawson Assoc., Jun-96
- Alternative Evaluation Report Operable Unit 5 Feasibility Study, Harding Lawson Assoc., Jul-96
- PCB Resampling Analytical Results, Operable Unit 2, Harding Lawson Assoc., Jul-96
- Addendum to Final Management Plan for Remedial Investigation/Feasibility Study, Remedial Area 1A, OU3, Ecology & Environment, Inc., Jul-96
- Release Investigation Report (Phase 2), Building 3564, CH2M Hill, Jul-96
- Amendment and Final Design Install/Replace Oil-Water Separators, and Drawings, OU1, Corps of Engineers, Aug-96
- Quality Assurance Summary Report on 1996 Groundwater Sampling at Buildings 1599 and 2077, OU1, Fort Wainwright, Aug-96
- Toxicity Characteristic Leaching Procedure (TCLP)-Lead Sampling, Remedial Area 1A, OU3, Ecology & Environment, Inc., Sep-96
- Final Work Plan Design Verification Study, Operable Unit 3, Hart Crowser, Sep-96
- Remedial Investigation Report, Operable Unit 1, ENSR Consulting and Engineering, Sep-96
- Record of Decision for Operable Unit 4, USA, USEPA, ADEC, Sep-96
- Responses to ADEC Comments on Draft Workplan Addendum for the Release Investigation at Building 2092, CH2M Hill, Sep-96
- Memorandum Responses to Comments on Building 2092 Release Investigation Workplan, CH2M Hill, Oct-96
- Final Remedial Action Report Building 2111 Demolition and UST Removal, A Engineering, Science & Tech, Oct-96
- Work Plan and Health and Safety Plan Addenda Release Investigation Building 2092, Gold Course Clubhouse, CH2M Hill, Oct-96
- Post-wide Risk Assessment Data Validation Summary, Harding Lawson Assoc., Oct-96
- Post-wide Risk Assessment Precision, Accuracy, Representativeness, Completeness, and Post-wide Risk Assessment Data Validation Summary, Harding Lawson Assoc., Oct-96
- Post-wide Risk Assessment Precision, Accuracy, Representativeness, Completeness, and Comparability Analysis Data Quality Assessment, Harding Lawson Assoc., Nov-96
- Precision, Accuracy, Representativeness, Completeness and Comparability Analysis Data Quality Assessment, RI, OU5, Harding Lawson Assoc., Nov-96
- Final Remedial Investigation Report, OU5, Harding Lawson Assoc., Nov-96
- Comparability Analysis Data Quality Assessment, Harding Lawson Assoc., Nov-96
- Precision, Accuracy, Representativeness, Completeness and Comparability Analysis Data Quality Assessment, RI, OU5, Harding Lawson Assoc., Nov-96
- Final Remedial Investigation Report, OU5, Harding Lawson Assoc., Nov-96

1996 (cont.)

- Disposition of Review Comments Draft Post-wide Risk Assessment, OU5, Harding Lawson Assoc., Dec-96
- Disposition of Review Comments Draft Post-wide Risk Assessment, OU5, Harding Lawson Assoc., Dec-96
- Minutes of Review Conferences, Draft Post-wide Risk Assessment, OU5, Harding Lawson Assoc., Dec-96
- Minutes of Review Conferences, Draft Post-wide Risk Assessment, OU5, Harding Lawson Assoc., Dec-96
- Landfill Cap, Operable Unit 4, 100% Design Contract Documents and Drawings, Dowl Engineers, Dec-96
- Comments on the 95% Design Analysis for the Landfill Cap, OU4, USEPA, Dec-96
- Final Post-wide Field Sampling Plan, 1996 Addendum, Harding Lawson Assoc., Dec
- Groundwater Modeling at Building 3564, Delivery Order 5, CH2M Hill, Dec-96
- Memorandum for Analytical Results, DRMO Excavated Soil, Alaska District Corps of Engineers, Dec-96
- Technical Memorandum No. 1, April 1996 Sampling Results for Groundwater Sampling for Storage Tank Sites (1171, 1514), CH2M Hill, Dec-96

1997

- 801 Drum Burial Site Supplemental 1996 Investigation, ENSR Consulting and Engineering, Jan-97
- Record of Decision for Operable Unit 2, USA, USEPA & ADEC, Jan-97
- Review Comment Annotation Work Plan ROD Design Study, OU2, COE, Jan-97
- Work Plan Record of Decision Design Study Operable Unit 2, Hart Crowser, Jan-97
- Review Comment Annotation, Draft 1996 Monitoring Report, OU3, USEPA, Jan-97
- Site Assessment Report, Remove Soil at Burn Pits, OU4, Rockwell Environmental, Jan-97
- Additional Comments on the Drawings and Technical Specifications for the Landfill Cap Project, OU4, DPW, Jan-97
- Laboratory Bioremediation Study, Operable Unit 5, Harding Lawson Assoc., Jan-97
- Comments on Three Precision, Accuracy, Representativeness, Completeness, and Comparability Analysis documents for OU-s 2 and 5, USEPA, Jan-97
- AST Inventory and Management Report, Forts Richardson, Wainwright and Greely, ENSR Consulting and Engineering, Jan-97
- Tee 5 Golf Course Well Installation and Sampling, ENSR Consulting and Engineering, Jan-97
- Tech Memo Evaluation for Intrinsic Remediation at Bldg 2092, CH2M Hill, Jan-97
- Conceptual Approach for Integrating Post-wide Risk Assessment Issues into the Operable Unit 5 Feasibility Study, Harding Lawson Assoc., Feb-97
- Response to Additional Comments on Drawings and Technical Specifications for the Landfill Cap Project, OU4, Corps of Engineers, AK. Dist., Feb-97
- Quarterly Monitoring Report, MP 15.75, FEP Design Verification Study, OU3, Hart Crowser, Feb-97

1997 (cont.)

- Technical Memorandum, Oct 1996, Quarterly Monitoring Results, Building 1168 Treatability Study, OU2, Harding Lawson Assoc., Feb-97
- Feasibility Study Operable Unit 1, ENSR Consulting and Engineering, Feb-97
- Proposed Plan for Remedial Action at Operable Unit 1, Fort Wainwright, Feb-97
- Work Plan, West QFS Sub-Area 2 Treatability Study, Harding Lawson Assoc., Mar-97
- Birch Hill Tank Farm (Remedial Area 1A), Submittal of 95% Soil Washing Remedial Design, Annotated Responses to Comments on 65% Soil Washing, OU3, Ecology & Environment, Inc., Mar-97
- Draft Intrinsic Remediation Treatability Study Report, Building 3564, Delivery Order 5, CH2M Hill, Feb-97 Building 1060 Treatability Study, Annual Report Year Two (Oct 1995 to Dec 1996), CH2M Hill, Mar-97
- Release Investigation Report Building 2092, CH2M Hill, Mar-97
- Insert Pages, Project Work Plan for UST Inventory and Management Programs at FTR, FTW, FTG, ENSR Consulting and Engineering, Mar-97
- PX Service Station Treatability Study Annual Report, Year Two (Oct 1995 to Dec 1996), DO5, CH2M Hill, Apr-97
- Tech Memo No. 2, Oct 1996, Sampling Results for GW from Storage Tanks (Bldgs 1172, 1514, 3425, 3481, 5110), CH2M Hill, Apr-97
- Decommission Report, FTW-125 Decommission of Wells, Alaska District Corps of Engineers, Apr-97
- Dec 1996 Quarterly Well Sampling - 801 Drum Burial Site, OU2, ENSR, Apr-97
- Final Remedial Action Report, North Post Source Removal, OU2, OHM Remediation Services, May-97
- Final Work Plan, Rhizosphere-Enhanced Phytoremediation Treatability Study, OU1, ENSR Consulting and Engineering, May-97
- Design Analysis 60 Percent Design, Design Verification Study, OU3, Hart Crowser, May-97
- 60 Percent Design, Drawings, Cost Estimate, Construction Specifications, Design Verification Study, Hart Crowser, May-97
- UST Release Investigation (Bldgs 1191, 2060, 2062, 2063, 4051, and 4110A), Harding Lawson Assoc., May-97
- No Further Action Letter from ADEC, Building 1191, Landfill Equipment Garage, ADEC, May-97
- Storm Water Pollution Prevention Plan, Landfill Cap, OU4, AGRA Earth & Environment, May-97
- Site Plan Landfill Cap Project, OU4, Dowl/Ogden Joint Venture, Jun-97
- Addendum to Operable Unit 5, Remedial Investigation Report, Harding Lawson Assoc., Jun-97
- Accident Prevention and Safety Plan, Landfill Cap, OU4, Alaska Road Boring Co., Jun
- Quality Control Plan, Landfill Cap, OU4, Alaska Road Boring Co., Jun-97
- Underground Pipeline Records Search Design Verification, OU3, Hart Crowser, Jun-97
- Quarterly Monitoring Report MP 15.75, Design Verification, OU3, Hart Crowser, Jun-97

1997 (cont.)

- Disposition of Review Comments - Draft Statement of Work and Schedule, OU 2 Remedial Design/Remedial Action, Harding Lawson Assoc., Jun-97
- Final Wellhead Protection Plan, Forts Richardson, Wainwright and Greely, Dowl/Ogden Joint Venture, Jun-97
- Chemical Quality Assurance Report Wells 6149/6152, Alaska District Corps of Engineers, Jun-97
- June 1997 GW Sampling Event, Picket Wells and Off-Post, Hart Crowser, Jun-97
- Memorandum for Final Report, Well 6149/6152, Alaska District Corps of Engineers, Jul-97
- Final 1997 System Monitoring Report Treatment System, OU4, Coal Storage Yard, Dowl/Ogden Joint Venture, Jul-97
- Storage Tank Sites (Bldgs 1172, 3481, and 5110) Groundwater Monitoring, July 1997, Sampling Plan Tech Memo, Alaska District Corps of Engineers, Jul-97
- Sampling Plan Addendum UST Intrinsic Remediation Study, Hart Crowser, Jul-97
- Technical Memorandum: Groundwater Monitoring, July 1997, Buildings 1172, 3425, 3482, and 5110, Alaska District Corps of Engineers, Jul-97
- Review Comment Annotation, Design Verification, 60% Design, OU3, USEPA, Jul-97
- Tech Memo North Post and DRMO Yard Treatability Study, OU2, Harding Lawson Assoc., Aug-97
- 1996 Annual Report, Building 1168 Treatability Study, OU2, Harding Lawson Assoc., Aug-97
- Intrinsic Remediation Treatability Study Work Plan, East Quartermasters Fuel System Area, Delivery Order 14, CH2M Hill, Aug-97
- Quarterly Report, OU5, West Quartermaster's Fueling System, Sub-Area 2, Oxygen Releasing Compound Treatability Study, Harding Lawson Assoc., Aug-97
- Final Work Plan for 1997 Chena River Aquatic Assessment Post-wide Risk Assessment, ABR, HLA & CH2M Hill, Sep-97
- Technical Memorandum, April 1997, OU2, Quarterly Monitoring Results, Building 1168 Treatability Study, Harding Lawson Assoc., Sep-97
- 1997 Annual Report, Bldg 1168, Treatability Study, OU2, Harding Lawson Assoc., Sep
- Record of Decision, Operable Unit 1, USA, USPEA & ADEC, Sep-97
- Environmental Restoration News, US Army , Sep-97
- Technical Report 2: Seasonal Midpoint Monitoring Report, 1546 and 3483 Remediation and Monitoring, Harding Lawson Assoc., Sep-97
- Technical Report 3: Seasonal Shutdown and Monitoring Report, 1546 and 3483, Remediation and Monitoring, Harding Lawson Assoc., Oct-97
- Revised Area-wide Community Relations Plan, Ecology & Environment, Oct-97
- Sampling Plan Addendum Former Building 1168 Release Investigation, Operable Unit 2, Hart Crowser, Oct-97
- Progress Report on Autumn 1997 Field Work, Chena River Aquatic Assessment, Post-wide Risk Assessment, ABR, Inc., Oct-97
- Status Report 1, Horizontal Well Treatability Study, Hart Crowser, Oct-97

1997 (cont.)

- Technical Memorandum: OU5 Feasibility Study Groundwater Modeling Results, CH2M Hill, Oct-97
- OU2 Precision, Accuracy, Representativeness, Completeness, and Comparability Analysis Data Quality Assessment, Harding Lawson Assoc., Oct-97
- Environmental Site Assessment, Landfill Cap, OU4, Alaska Road Boring Co., Oct-97
- Quarterly Monitoring Report, Milepost 15.75, OU3, Fairbanks-Eielson Pipeline Design Verification Study, Corps of Engineers, AK. Dist., Nov-97
- Review Comments, Draft Remedial Investigation Report, Harding Lawson Assoc., Nov-97
- Final Remedial Design/Remedial Action Plan, Operable Unit 2, Bldg 1168 Source Area, Harding Lawson Assoc., Dec-97
- Final Geophysical Report 801 Drum Burial Site, OU1, DOWL/Ogden, Dec-97
- Interim Report, Operable Unit 5, Sub-Area WQFS1, Horizontal Well Treatability Study, Harding Lawson Assoc., Dec-97

1998

- Letter Report: September 1997 Quarterly Well Sampling 801 Drum Burial Site., OU1, ENSR Consulting and Engineering, Jan-98
- Technical Memorandum, Jul and Oct 97, Quarterly Monitoring Results, Bldg 1168, Treatability Study, OU2, Harding Lawson Assoc., Jan-98
- Quarterly Report, West Quartermaster's Fueling System, Sub-Area 2, Oxygen Releasing Compound Treatability Study, Harding Lawson Assoc., Jan-98
- Proposed Approach to the Source Area Treatability Study, West Quartermaster's Fueling System Area, CH2M Hill, Jan-98
- Addendum Sheets to Quarterly Report, West Quartermaster's Fueling System, Sub-Area 2, Oxygen Releasing Compound Treatability Study, Harding Lawson Assoc., Feb
- Quarterly Monitoring Report, Milepost 15.75, FEP Design Verification Study, OU3, Hart Crowser, Feb-98
- 1997 GW Sampling, Final Report, Landfill Monitoring Wells, OU4, Dowl/Ogden Joint Venture, Feb-98
- July 1997 Groundwater Sampling Final Report: OU4, Record of Decision Remedial Action Design Study, Dowl/Ogden Joint Venture, Feb-98
- Interim Progress Report, Rhizosphere-Enhanced Phytoremediation Treatability Study, Final. OU1, ENSR Consulting and Engineering, Mar-98
- 1998 Field Season Work Plan, OU3, Hart Crowser, Mar-98
- Final Work Plan for West Quartermasters Fueling Station Retaining Wall Removal, Oil Spill Consultants, Mar-98
- Technical Memorandum: Oxygen Releasing Compound Treatability Study, Harding Lawson Assoc., Mar-98
- Quarterly Monitoring Report (Oct 3, 1997-Jan 28, 1998), Horizontal Well Treatability Study, Hart Crowser, Mar-98
- PX Service Station Treatability Study, Annual Report, Year Three (Jan 97-Jan 98), CH2M Hill, Mar-98

1998 (cont.)

- Vertical Sparging Curtain Treatability Study Work Plan, West Quartermaster's Fueling System, Sub-area WQFS2, CH2M Hill, Mar-98
- Fort Wainwright Restoration Advisory Board Meeting Minutes, Alaska District Corps of Engineers, Mar-98
- Remedial Action Work Plan, Operable Unit 1, ENSR Consulting and Engineering, Apr
- November 1997 Groundwater Sampling Final Report: OU4, Record of Decision, Remedial Action Design Study, Dowl/Ogden Joint Venture, Apr-98
- Former Building 1168 Release Investigation, Operable Unit 2, Hart Crowser, May-98
- 1997 Remediation System Operation Report, Record of Decision Design Study, Operable Unit 2, Hart Crowser, May-98
- Technical Memorandum, April 1998, Groundwater & Product Sampling, WQFS2., CH2M Hill, May-98
- Chena River Aquatic Assessment, ABR, Inc., Jun-98
- Final Operable Unit 5 Feasibility Study, CH2M Hill, Jun-98
- Proposed Plan for Remedial Action, CH2M Hill, Jun-98
- Natural Attenuation of Chlorinated Hydrocarbon Contamination at Fort Wainwright, Alaska: A Hydrogeochemical and Microbiological Investigation Workplan., US Geological Service, Jun-98
- Quarterly Monitoring Report, Nov 97-Apr 98, Bldg 1168 Treatability Study, Operable Unit 2, Hart Crowser, Jun-98
- Letter Report, March 1998, Groundwater Sampling, 801 Drum Burial Site., OU1, ENSR Consulting and Engineering, Jun-98
- Fort Wainwright Restoration Advisory board Meeting Minutes, Alaska District Corps of Engineers, Jun-98
- Environmental Restoration News, June 1998, Vol 6, No. 1, US Army , Jun-98
- Natural Attenuation of Chlorinated Hydrocarbon Contaminants., US Geological Survey, Jul-98
- Estimate of Aquifer Properties by Numerical Simulation., US Geological Survey, Jul-98
- Birch Hill Tank Farm Groundwater Investigation, OU3, Hart Crowser, Jul-98
- Six-Phase Soil Heating, Radio Frequency Heating, and Laboratory Column Study Work Plan, West Quartermaster's Fueling System, CH2M Hill, UAF, Geosphere, Jul-98
- Progress Report on Spring 1998 Field Work, Chena River Aquatic Assessment, Post-wide Risk Assessment., ABR, Inc., Jul-98
- Technical Memorandum: Groundwater Monitoring, Building 5010, Alaska District Corps of Engineers, Apr-98 Technical Memorandum: Groundwater Monitoring, Building 5010, July 1998, Alaska District Corps of Engineers, Jul-98
- April 1998 Groundwater Monitoring, Building 5010, Alaska District Corps of Engineers, Jul-98
- Confirmation Soil and Groundwater Sampling of Bioventing Treatability Study, Sites Bldgs 1002, 1168 and 2250, ENSR Consulting and Engineering, Aug-98
- Source Area Treatability Study Work Plan, West Quartermaster's Fueling System, CH2M Hill, Aug-98

1998 (cont.)

- Final Report, Oxygen Release Compound Treatability Study, OU5, West Quartermaster's Fueling System, Sub-area 2, Harding Lawson Assoc., Aug-98
- Site Investigation and Treatability Study, Work Plan, Milepost 2.7 and 3.0, OU3, Fairbanks-Eielson Pipeline, Hart Crowser, Aug-98
- Monitoring Report for Apr 98 through Jul 98, Bldg 1168 Site, Treatability Study, OU2, Hart Crowser, Aug-98
- Quarterly Monitoring Report, Bldg 1168 Treatability Study, OU2, Hart Crowser, Aug-98
- Estimate of Aquifer Properties by Numerically Simulating Groundwater/Surface Water Interactions, US Geological Services, Aug-98
- Final Sampling Report, Sep 97-May 98, OU4, Dowl/Ogden Joint Venture, Aug-98
- Technical Memorandum: Landfill Cap Sampling, OU4, Corps of Engineers, Ak. Dist., Aug-98
- Memo, Landfill Cap Project Post- Construction Inspection, OU4, Dowl/Ogden Joint Venture, Sep-98
- Final Sampling Report, OU4 (Nested wells), OU4, Dowl/Ogden Joint Venture, Sep-98
- Quarterly Monitoring Report, Oct 97-Jun 98, Bldgs 1546 & 3483, Sep-98
- Final Landfill Monitoring Wells, Groundwater Sampling Report, OU4, Dowl/Ogden Joint Venture, Sep-98
- Pump Test Work Plan, Birch Hill Tank Farm, OU3, Hart Crowser, Sep-98
- Technical Memorandum, Chena River Aquatic Assessment, Spring and Summer, 1998., ABR, Inc. and CH2M Hill, Sep-98
- Technical Memorandum: Addendum for Building 1070 Site, Intrinsic Remediation Treatability Study Work Plan, EQFS, CH2M Hill, Sep-98
- Groundwater Monitoring Report, Underground Storage Tank Intrinsic Remediation Study, Bldgs 2060, 2062 and 2063, Hart Crowser, Oct-98
- Bldg 1060 Treatability Study, Annual Report Three (Jan-Dec 97), CH2M Hill, Oct-98
- AS/SVE Treatability Study Performance year end Aug 98, Bldg 2077, ENSR Consulting and Engineering, Oct-98
- Geologic Investigation of Hydrogeology Part II, CRREL, Oct-98
- Technical Memorandum: Modeling of Air Sparging Effects on Groundwater in WQFS2, CH2M Hill, Nov-98
- Final System Monitoring Report, Bldgs 2111 and 2112, Dowl/Ogden, Nov-98
- Post-wide Well Evaluation Report., CH2M Hill, Nov-98
- Tech Memo: FWA post-wide Well Evaluation Report., CH2M Hill, Dec-98
- Final FWA Remediation Air Emissions., CH2M Hill, Dec-98
- Hydrological Evaluation of Remedial Area 1B., OU3, CH2M Hill, Dec-98
- Preliminary Model of Permafrost and Aquifers, OU3, CRREL, Dec-98
- Landfill Remedial Action Final Work Plan, OU4, Dowl/Ogden Joint Venture, Dec-98
- Groundwater Sampling Report, Landfill, OU4, Dowl/Ogden Joint Venture, Dec-98
- Groundwater Sampling Report, Final Report Landfill, OU4, Dowl/Ogden Joint Venture, Dec-98

1999

- Remedial Action Report, Operable Unit 1, ENSR Consulting and Engineering, Jan-99
- Monitoring Report, Aug –Nov 1998, Bldg 1168, OU2, Hart Crowser, Jan-99
- Record of Decision, Design Study, Operable Unit 2, Hart Crowser, Feb-99
- Installation Report, Air Sparge Curtain Treatability Study, CH2M Hill, Feb-99
- Monitoring Well Survey and Groundwater Modeling, ENSR, Feb-99
- Installation Report, Source Area Treatability Study, CH2M Hill, Feb-99
- Technical Memorandum: Installation of Soil Borings and Monitoring Wells, Data Gap Investigation, CH2M Hill, Feb-99
- Quarterly Monitoring Report, OU5 Treatability Study, FWA, Horizontal Well, Hart Crowser, Feb-99
- Monitoring Report for June-Dec 98, Bldgs 1546 and 3483, Hart Crowser, Feb-99
- Bldg 3564, Treatability Study Annual Report, Aug96-Sep 98, CH2M Hill, Feb-99
- Groundwater Sampling Event, Building 1002, Alaska District Corps of Engineers, Feb-99
- September 1998 Sampling Event 5010, Alaska District Corps of Engineers, Feb-99
- Monitoring Report for Jun-Dec 98, Bldgs 1546 & 3483, Hart Crowser, Feb-99
- Bldg 3564, Treatability Study Annual Report, Aug 96-Sep 98, CH2M Hill, Feb-99
- Geotechnical Branch, Groundwater Sampling Event, Bldg 1002, Alaska District Corps of Engineers, Feb-99
- Geotechnical Branch, Sep 98 Sampling Event, Bldg 5010, Alaska District Corps of Engineers, Feb-99
- Annual Operating Report, Bldg 3564, 2 Party Site, CH2M Hill, Feb-99
- 1998 Treatability Study Report for North Post Site and DRMO, Harding Lawson Assoc., Mar-99
- Final 1998 Groundwater Sampling Report, Bldgs 2111/2112, Dowl/Ogden, Mar-99
- Post-wide Monitoring Well Evaluation, CH2M Hill, Mar-99
- Chena River Aquatic Assessment Program, 1997-98, Vol, I-III, ABR/CH2M Hill, Mar-99
- 2nd Interim Progress Report, Rhizosphere Enhanced Phytoremediation Treatability Study, Operable Unit 1, ENSR Consulting and Engineering, Mar-99
- Final Remedial Action Report, Landfill, Dowl/Ogden Joint Venture, Mar-99
- Final Remedial Action Report, Coal Storage Yard, OU4, Dowl/Ogden Joint Venture, Apr-99
- Quarterly Monitoring Report, 1 Dec 98-3 Mar 99, Treatability Study, Hart Crowser, Apr
- Tech Memo: Groundwater Monitoring, Bldg 5010, Alaska District Corps of Engineers, Apr-99
- PX Service Station LTM Plan, CH2M Hill, May-99
- Bldg 1060 Treatability Study Annual Report Year 4, Jan 98-Dec 98, CH2M Hill, May-99
- 1998 Monitoring Report, Design Verification Study, OU3, Hart Crowser, May-99
- Picket Wells Sampling Report, Apr 99, Sampling Event, OU2, Hart Crowser, May-99
- Oct 98, Groundwater Sampling Report, Final Report, ROD RADS, Coal Storage Yard, OU4, Dowl/Ogden Joint Venture, May-99
- May 99, GW Sampling Report, ROD RADS, (Coal Storage Yard), OU4, Dowl/Ogden Joint Venture, May-99

1998 (cont.)

- 1998 VOC Emissions, VOC Emissions Tracking Plan, VOC Test Program, NOX & CO Emissions, CH2M Hill, Jun-99
- Monitoring Aug 98-Apr 99, North Post & DRMO 2 Party Sites, Hart Crowser, Jun-99
- Monitoring Report, Dec 98-Apr 99, Bldgs 1546 and 3483, Hart Crowser, Jul-99
- Technical Memorandum: OU4, FWA, Landfill Post-Construction Inspection., OU4, Dowl/Ogden Joint Venture, Jul-99
- Technical Memorandum: Installation and Sampling Bedrock Monitoring Wells, OU3, Birch Hill Tank Farm, Corps of Engineers, AK. Dist., Jul-99
- Mar/Jun 99 GW Sampling Report, Landfill Monitoring Wells, OU4, Dowl/Ogden Joint Venture, Jul-99
- Source Area TS WQFS Semiannual Monitoring Report, CH2M Hill, Jul-99
- Tech Memo: PX Service Station Confirmation Groundwater Sampling, Sep-Oct 98, CH2M Hill, Aug-99
- Release of HAPs from Treatability Studies Systems 1998., CH2M Hill, Aug-99
- Final Six-Phase Soil Heating/Column Study Treatability Study Work Plan, CH2M Hill, Aug-99
- Landfill Cap Inspection Report., OU4, Dowl/Ogden Joint Venture, Sep-99
- Chena River Aquatic Assessment Program, FWA, Spring and Summer 1998., ABR, Sep-99
- Quarterly Monitoring Report, Horizontal Well/Driven Progress, WQFS1, Hart Crowser, Sep-99
- Chemical Data Report, WQFS, Corps of Engineers Geotechnical Branch, Oct-99
- TM: Evaluating Remedial Operations for Implementation, CH2M Hill, Oct-99
- Picket Well Sampling Report, Oct 99, Sampling Event, OU2, Hart Crowser, Oct-99
- Picket Well Sampling Report, DRMO, OU2, Hart Crowser, Nov-99
- Field Status Report, OU3, Swaim/Hart Crowser, Nov-99
- Hydrogeological Investigation at Birch Hill Tank Farm, OU3, CRREL, Dec-99
- Implementation and Operations Plan, OU3, Hart Crowser, Dec-99
- 1998 and 1999 Chena River Surface Water Sampling Technical Memorandum, WQFS2, CH2M Hill, Dec-99
- Semi-Annual Monitoring Report, Vertical Air Sparging Curtain, WQFS2, CH2M Hill, Dec-99
- Tech Memo: Chena River Aquatic Assessment Program, OU5, Interim Report, CH2M Hill, Dec-99
- PX Gas Station Confirmation Groundwater Sampling, CH2M Hill, Dec-99
- Horizontal Well Treatability Study Annual Monitoring Report., Hart Crowser, 1999

2000

- Site Investigation, Well 50006, ENSR, Feb-00
- Air Pollutant Sampling Program, Treatability Study Systems, CH2M Hill, Mar-00
- VOC Emissions Tracking Program for Treatability Study, ENSR, Mar-00
- Groundwater Sampling Report, Draft, Landfill Monitoring Wells, OU4, Dowl/Ogden Joint Venture, Mar-00

2000 (cont.)

- March 30, 2000, Groundwater Sampling Results, Bldgs 2063 and Apple Road, Alaska District Corps of Engineers, Mar-00
- Annual Air Sparging Curtain/Source Area monitoring Report, WQFS1 and 2, OU5, CH2M Hill, Mar-00
- Annual Monitoring Report, Horizontal Wells, Hart Crowser, Mar-00
- Groundwater Monitoring, Bldgs 1172/3425/3481/5110, Alaska District Corps of Engineers, Mar-00
- Final Operations and Maintenance Work Plan, Bldg 1546, 3483, North Post, and DRMO 1&5, Hart Crowser, Mar-00
- Soil Borings & Groundwater Monitoring Well Logs, Spring 2000 Field Activities, Bldgs. 2062 and OU5, Alaska District Corps of Engineers, Apr-00
- Building 1060 West, Remedial Action Work Plan, CH2M Hill, Apr-00
- Building 1060W, Remedial Action Work Plan, CH2M Hill, Apr-00
- WQFS Remedial Action Work Plan, Final, CH2M Hill, Apr-00
- 1999 Annual Phytoremediation Progress Report (3rd Annual Progress Report), OU1, ENSR Consulting and Engineering, Apr-00
- 1999 Comprehensive Monitoring Report, Design Verification, OU3, Hart Crowser, May
- Time to Cleanup Tool: Spreadsheet Documentation, CH2M Hill, May-00
- Final PAH Evaluation Work Plan, WQFS2, CH2M Hill, May-00
- Bldg 1060 Treatability Study, Annual Report, Year 5, CH2M Hill, May-00
- Final PAH Evaluation Work Plan, WQFS2, CH2M Hill, May-00
- Bldg 1060 Treatability Study Annual Report, Year 5, CH2M Hill, May-00
- Time to Clean-Up Tool, Spreadsheet Documentation, CH2M Hill, May-00
- Bldg 3564 Treatability Study Annual Report, Years 1 & 2, CH2M Hill, May-00
- March 30, 2000, Groundwater Sampling Results, Bldg 3483 and Apple Road, Hart Crowser, May-00
- Bldg 2111/2 Raw Data Report, ASCI/NANA, May-00
- 1999 Monitoring Report, North Post/DRMO 1 & 5, Hart Crowser, Jun-00
- Bldg 3564, Long-Term Monitoring Plan, CH2M Hill, Jun-00
- In Situ Air Sparging Treatment Efficiency Tracer Testing, CH2M Hill, Jun-00
- PAH Evaluation Work Plan, WQFS2, CH2M Hill, Jun-00
- Soil Boring and Monitoring Well Logs, Spring 00 Field Activities at Bldgs 2060, Alaska District Corps of Engineers, Jun-00
- Radio Frequency Heating and Six Phase Soil Heating Treatability Studies, Nutrient Addition Work Plan Addendum, CH2M Hill, Jun-00
- Soil Borings and Groundwater Monitoring Well Logs, Field Activities at Bldgs 2063 and Operable Unit 5 (Apple Road), Alaska District Corps of Engineers, Jun-00
- Groundwater Sampling - 801 Drum Burial Site., OU1, ENSR Consulting and Engineering, Jun-00
- Bedrock and Structure Characterization at the Birch Hill Tank Farm Truck Fuel Stand, OU3, CRREL, Jun-00
- Groundwater Sampling, 801 Drum Burial Site, OU1, ENSR Consulting and Engineering, Jun-00

2000 (cont.)

- OU5 Monitoring Well Installation (Apple Road), Alaska District Corps of Engineers, Jul-00
- Radio Frequency Heating/Six Phase Soil Heating Treatability Study Nutrient Addition Work Plan Addendum., CH2M Hill, Jul-00
- Vertical Air Sparging Curtain/Source Area Treatability Study, WQFS, CH2M Hill, Jul-00
- Vertical Sparging Curtain Treatability Study WQFS Semi-Annual Report, Year 2, CH2M Hill, Jul-00
- Monitoring Well Installation (Apple Road), Tech Memo, Alaska District Corps of Engineers, Jul-00
- Final Chemical Report for Monitoring Well Installation and Sampling, Apple Road, Alaska District Corps of Engineers, Jul-00
- Air Pollutant Sampling Program, Treatability Study Systems, Release of HAPs from Systems, VOC Emissions, ENSR, Jul-00
- 2000 VOC Emissions, Fort Wainwright Remediation Systems, ENSR, Aug-00
- Final Tech Memo: Site Safety and Health Plan, WQFS3 and 1060 West, Northwind, Aug-00
- Revised Preliminary Draft Remedial Action Report, OU1, ENSR Consulting and Engineering, Aug-00
- August 99 Groundwater Sampling Report, Final, OU4, Landfill, Dowl/Ogden Joint Venture, Aug-00 Revised Interim Remedial Action Report, OU1, ENSR Consulting and Engineering, Aug-00
- March 30, 2000, Groundwater Sample Results, Bldg 1168, OU2, Hart Crowser, Aug-00
- Final 1999 system Monitoring Report, Treatability Study, Bldg 2111/2112, Dowl/Ogden, Aug-00
- FWA PX Service Station Conformationals Groundwater Sampling, Bldg 3562, Alaska District Corps of Engineers, Aug-00
- Revised Bldg 3562, PX Gas Station, Confirmation Groundwater Sampling Tech Memo, Alaska District Corps of Engineers, Aug-00
- Tech Memo: Bldg 2063 Monitoring Well Installation and Sampling, Alaska District Corps of Engineers, Aug-00
- Chemical Data Report, Spring 2000 Groundwater Monitoring, Bldgs 2111/2112, Alaska District Corps of Engineers, Sep-00
- May & Sept 2000 Groundwater Monitoring Results, Bldg 3483, Hart Crowser, Sep-00
- Final 2000 System Monitoring Report, Dowl/Ogden, Sep-00
- Chemical Data Report, Spring 2000, Groundwater Monitoring, DRMO Picket Wells., OU2, Corps of Engineers, Alaska District, Sep-00
- Five Year Review Report for Fort Wainwright, Wood-Canyon, Sep-00
- Draft Operations, Maintenance and Monitoring Plans, Valve Pit A and the Eight Car Header, OU3, Hart Crowser, Sep-00
- Final Tech Memo Site Safety & Health Plan, WQFS3 & 1060W, Northwind, Aug-00 Final, Column Study Report, WQFS1, CH2M Hill, Sep-00
- Final Column Study Report, WQFS1, Operable Unit 5, CH2M Hill, Sep-00
- Chemical Data Report, WQFS, OU5, Alaska District Corps of Engineers, Oct-00

2000 (cont.)

- 2000 Status Report and Respiration Testing, Bldg 2077, ENSR Consulting and Engineering, Oct-00
- Final Work Plan for Decommissioning Remediation Systems at Bldgs 1060 East & 3562, Final Site Safety and Health Plan, ASCI/NANA, Oct-00
- Remedial Action Report for Decommissioning Remediation Systems at Bldgs 1060 East and 3562, ASCI/NANA, Nov-00
- Final 1999 Comprehensive Annual Monitoring Report, DRMO, OU2, Hart Crowser, Nov-00
- After Action Report: Bldg 3564 and Soil Heating Treatability Study Soil Borings, CH2M Hill, Nov-00
- Intrinsic Remediation Evaluation, EQFS, CH2M Hill, Nov-00
- Memo: After Action Report, Soil Heating Treatability Study Soil Borings, CH2M Hill, Nov-00
- Operable Unit 5, WQFS1C Remedial Action Design Drawings, ENSR/Voom/CH2M Hill, Nov-00
- Intrinsic Remediation Evaluation, EQFS, CH2M Hill, Nov-00
- Final 1999 Groundwater Sampling, WQFS, CH2M Hill, Dec-00
- Design Drawings, Operable Unit 5, WQFS1A Remedial Action, ENSR/Voom/CH2M Hill, Dec-00
- Final 1999 Groundwater Sampling, WQFS, CH2M Hill, Dec-00
- Final Operations, Maintenance, Monitoring Report, Bldg 1168, OU2, Hart Crowser, Dec-00
- Final Operations, Maintenance and Monitoring Report for OU2, DRMO, Record of Decision Design Study Treatment System, (Vols I and II), OU2, Hart Crowser, Dec-00
- Final Operations, Maintenance and Monitoring for Operable Unit 1, 801 Drum Burial Site treatment system, ENSR Consulting and Engineering, Dec-00
- Final Operations, Maintenance and Monitoring Manual for 801 Drum Burial Site Treatment System, Fort Wainwright, OU1, Hart Crowser, Dec-00
- Raw Analytical Data for Bldgs 2111 and 2112, ASCI/NANA, Dec-00
- Final 1999 Design Verification Study Report, Coal Storage yard, OU4, Dowl/Ogden Joint Venture, Sep-00 OU4, Dowl/Ogden Joint Venture, Dec-00
- Final 2000 Status Report and Respiration Testing, Bldgs 1002, 1168 and 2250, ENSR Consulting and Engineering, Dec-00
- Sample Set of Groundwater Flow Data from Aug 95-Dec 99., OU3, CRREL, Dec-00
- Final Remedial Action Report, DRMO Yard and Bldg 1168, OU2, ENSR, 2000
- Remediation System Operations Report, DRMO, OU2, Hart Crowser, 2000
- Work Plan, OU3, Swaim/Hart Crowser, 2000
- Drawings, Planned Remedial Action Augmentation, WQFS1A, ENSR/VOOM/CH2M Hill 1999 Sample Results, Bldg 2077, 2 Party, ENSR Consulting and Engineering, 2000
- Sample Results for 1999, Bldgs 2250, 1168 and 1002, 2 Party Sites, ENSR Consulting and Engineering, 2000

2001

- Coal Storage yard, Raw Data Report, OU4, ASCI/NANA, Jan-01
- Bldg 3564, Treatability Study, Annual Report Year 3 (7/99-7/00), CH2M Hill, Jan-01
- Final Operations, Maintenance and Monitoring Reports, Coal Storage yard, Vol I and II, OU4, Hart Crowser, Jan-01
- Final Operations, Maintenance and Monitoring Report, Landfill, OU4, Hart Crowser, Jan-01
- Coal Storage Yard Raw Data Report, OU4, ASCI/NANA, Jan-01
- Final Operations, Maintenance & Monitoring Manual, Coal Storage Yard, Vol. I and II, OU4, Hart Crowser, Jan-01
- Final Operations, Maintenance & Monitoring Manual, Landfill, OU4, Hart Crowser, Jan-01
- Air Sparging Curtain and Source Area Treatability Study, 1999 Annual Report, CH2M Hill, Jan-01
- Operable Unit 5, WQFS1B, Remedial Action Design Drawings, ENSR/Voom/CH2M Hill, Jan-01
- Final Spring 1999 Groundwater Sampling, EQFS, CH2M Hill, Feb-01
- Spring 1999 Groundwater Sampling, EQFS, CH2M Hill, Feb-01
- Tech Memo: Apple Street Groundwater Investigation, OU5, Northwind, Feb-01
- Chemical Data Quality Assessment Report for Aug-Sep 00, Groundwater Monitoring at Mileposts 2.7, 3.0 & 15.75, OU3, Corps of Engineers, AK Dist., Feb-01
- Birch Hill Tank Farm Monitoring Well Installation & Sampling, OU3, Corps of Engineers, AK Dist., Feb-01
- Groundwater Flow Measurements from Aug 95-Dec 00, Mar 01., OU3, CRREL, Mar-01
- Horizontal Well Treatment System Final 2000 Annual Monitoring, Hart Crowser, Mar-01
- WQFS3, Final Soil Vapor Extraction/Air Sparging Remedial Action Work Plan, Northwind, Apr-01
- 1060W, Final Soil Vapor Extraction/Air Sparging Remedial Action Work Plan, Northwind, Apr-01
- Geohydrologic Network Status Report, 1998-2000, Tech Memo, ENSR, Apr-01
- Construction Report for WQFS3/1060W, Remedial Systems, Northwind, Apr-01
- Groundwater Modeling at OU5, CH2M Hill, Apr-01
- Six Phase Soil Heating and Radio Frequency Heating, Treatability Study Final Report, WQFS, CH2M Hill, Apr-01
- Remedial Systems Operations Report (ROD DS), Hart Crowser, Apr-01
- Annual Monitoring Report for 801 Drum Burial Site at Fort Wainwright, OU1, ENSR Consulting and Engineering, Apr-01
- Oxidizer Cost/Benefit Analysis Report for Operable Units 3 & 5, OU3, Hart Crowser, Apr-01
- Raw Data Report for Landfill, OU4, ASCI/NANA/Dowl, Apr-01
- ROLF, Groundwater Modeling Report, OU3, CH2M Hill, Apr-01
- Preliminary Draft Remedial Action Report, OU3, Hart Crowser, May-01
- 2000 Comprehensive Monitoring Report, OU3, Hart Crowser, May-01
- DRMO Comprehensive Annual Monitoring Report, OU2, Hart Crowser, May-01

2001

- Final Design Drawings for Treatment System at WQFS1A, ENSR/Voom/CH2M Hill, May-01
- Revised Site Safety & Health Plan, OU5, Northwind, May-01
- Final Tech Memo for Construction Activities at WQFS1A, 1C&2, Northwind, May-01
- WQFS2 Vertical Air Sparging Curtain Treatability Study Year 3, Semi-Annual Report, CH2M Hill, May-01
- Source Area Remedial Action Work Plan, CH2M Hill, May-01
- OU5 Final Remedial Action Design Drawings for WQFS2 & 1C, ENSR/Voom/CH2M Hill, Jun-01
- Final Operations, Maintenance and Monitoring Manual, OU2, Hart Crowser, Jun-01
- Treatment Systems Operations, Maintenance, Monitoring Manuals, OU3, Hart Crowser, Jun-01
- Groundwater Modeling Report for RA1B, OU3, CH2M Hill, Jun-01
- Raw Data Report for Coal Storage Yard, OU4, ASCI/NANA/Dowl, Jun-01
- Bentley Trust Well Logs, OU3, Corps of Engineers, AK Dist., Jun-01
- Fourth and Final Annual Progress Report 2000 for Rhizosphere Enhanced Phytoremediation Study, OU1, ENSR Consulting and Engineering, Aug-01
- EQFS Groundwater Monitoring Well Sampling Program Summary and Diagrams, Northwind, Sep-01
- Final Aug 00 Groundwater Sampling Report, OU4, Dowl/Ogden Joint Venture, Sep-01
- Final Monitoring Report, Coal Storage Yard 2000, OU4, Dowl/Ogden Joint Venture, Oct-01
- Picket Well Sampling and Three Party Treatment Systems Operation Technical Memoranda, OU2, Fairbanks Environmental Services, Oct-01
- Work Plan, SAP, QAPP, and HSP, Fairbanks Environmental Services, OU3, Nov-01
- Final Bldg 1060W Remedial System Operations, Maintenance and Monitoring Manual, Northwind, Nov-01
- Mid-Year Tech Memo for Bldgs 1060W & WQFS3 Remedial Systems, Northwind, Dec
- WQFS Nutrient Amendment Groundwater Sampling and Summary Report for 2000, CH2M Hill, Dec-01
- OU5 Air Sparge Curtain and Source Area Treatability Study 2000 Annual Report, CH2M Hill, Dec-01
- Coal Storage Yard, Fall 2001 Raw Monitoring Data, OU4, ASCI/NANA/Dowl, Dec-01
- Fall 2001 Raw Monitoring Data, OU4, ASCI/NANA/Dowl, Dec-01
- Coal Storage Yard Fall 2001 Raw Soil Sampling Data, OU4, ASCI/NANA/Dowl, Dec-01
- Final Long-Term Monitoring Plan, former Bldg 1168, ENSR, Dec-01
- Fall 2001 Soil Raw Data Report, Bldg 2111/2, ASCI/NANA, Dec-01
- Groundwater Program Monitoring Report, Various 2-Party Sites, CH2M Hill, Dec-01
- Post-wide Groundwater Monitoring Well Database, update , Northwind, 2001

2002

- Fall 2001 Groundwater Raw Data Report, Bldg 2111/2, ASCI/NANA, Jan-02
- Annual Report, VOC Emissions Tracking Program for IRP, ENSR, Jan-02

2002 (cont.)

- 2001 Status Report and Respiration Testing, Bldgs 1002, former Bldg 1168 and 2250, ENSR Consulting and Engineering, Jan-02
- Bldg 2077, 2001 Status Report & Respiration Testing, ENSR, Jan-02
- Final RI Work Plan for Neely Road POL Site, ENSR, Jan-02
- Landfill, Final Monitoring Well Report, OU4, ENSR, Jan-02
- Final Monitoring Well Replace Jan 2002, OU4, ENSR, February-02
- Final RI Work Plan for Neely Road POL site FWA Feb 2002, ENSR, Mar-02
- OU5, WQFS, PAH Evaluation Report, FWA, CH2M Hill, Apr-02
- Final Work Plan for the 2002 Chena River Aquatic Assessment Program, FWA AK, CH2M Hill, Apr-02
- Project Schedule for GW Data Collection & Trend Analysis, Northwind, May-02
- OU5 Air Sparging Curtain Treatability Study Analytical Data, FWA AK April 2002, CH2M Hill, May-02
- OU2 Comprehensive Report, FWA, FES, May-02
- Final 2002 801 Drum Burial Site Groundwater Monitoring Report FWA AK May 02, OU1, ENSR, May-02
- TCLP Preliminary Results, Bldg 2077, ENSR, May-02
- Assessment of MP 2.7 and 3.0 Source Areas, OU3 FWA AK May 2002, FES, May-02
- 2001 Monitoring Report, Operable Unit 3, Fort Wainwright, Alaska (CD), FES, May
- OU2 DRMO 2001 Comprehensive Report, FWA AK May 2002, FES/Swaim, May-02
- OU2 DRMO Picket Well Sampling Results Tech Memo FWA AK May 2002, FES/Swaim, May-02
- OU2 DRMO Water Supply Well Sampling Results Tech Memo FWA AK May 2002, FES/Swaim, May-02
- Tech Memo: DRMO-1 Treatment System Expansion 35%, OU2, Northwind, Jun-02
- Tech Memo: DRMO-5 Treatment System Expansion 35%, OU2, Northwind, Jun-02
- OU5 Source Area Treatability Study Analytical Data, FWA AK, April 2002, CH2M Hill, May-02
- Project Schedule for Horizontal Well Optimization, Indoor Air @ 1060, Updated QAPP, Northwind, Jun-02
- G/W Contaminant Data Collection & Trend Analysis Work Plan, Northwind, Jun-02
- WQFS Sub-Area 3 & Bldg 1060W Remediation Systems 2001 Annual Report, Northwind, Jun-02
- WQFS1/WQFS2 Post Construction Report, OU5, FWA, Northwind, Jun-02
- Project Schedule for Source Area Remediation System Refractory Lining Repair, Northwind, Aug-02
- Bldg 2077, Contaminated Soil Removal, Comments & Work Plan, Swaim/FES, Aug-02
- Bldg 2111/2112 Raw Data Report, ASCI/NANA, Aug-02
- Indoor Air Monitoring, Building 1060W, Northwind, Aug-02
- Tech Memo: Probe Sampling & Analysis DRMO-4 Sub Area, OU2, Northwind, Sep-02
- Tech Memo: Soil Vapor Extraction Well Sampling 3-Party AS/SVE Treatment System DRMO Yard, OU2, Northwind, Sep-02
- Final IRAR, FES, OU3, September-02

2002 (cont.)

- CSY Spring 2002 Raw Data Report , OU4, ASCI/NANA, September-02
- Final Groundwater Contamination Data Collection Work Plan & SSHP, Northwind, Oct
- AS/SVE OM&M Project Schedule OU5, Northwind, Nov-02
- FWA Groundwater Sampling Program 2002 Report, CH2M Hill, Nov-02
- 2002 Interim Remedial Action Report September 2002, CH2MHill, November-02
- Soil Boring Installation Action Report for Coal Storage Yard, November 2002, OU4, Northwind, November-02
- Field Notes for GW and soil sampling at Landfill and CSY Sept/October 2002, OU4, North Wind, November-02
- Work Plan for GW Monitoring and Data Analysis at the CSY October 2002, OU4, North Wind, November-02
- Work Plan for GW Monitoring and Data Analysis at the Landfill Source Area, OU4, North Wind, November-02
- Former Buildings 1128, 1129, and 1130 Investigation, FES, OU3, November-02
- Source Area Treatability Study, 2001 Annual Report, OU5, CH2M Hill, Dec-02
- Tech Memo: 2002 Report for Bldg 2077 Additional Sampling, ENSR, Dec-02
- Tech Memo - Groundwater Well Installations, Bldg 1002, ENSR, Dec-02

2003

- 2003 Work Plan, Operable Unit 3, Fort Wainwright Alaska dated Nov 2002, FES, January-03
- OM&M Manual, Birch Hill Tank Farm Product Recovery System (addendum to 2001) dated Nov 2002, OU3, FES, January-03
- Tech Memo: Fall 2003 Sampling Data Report, OU3, FES, Jan-03
- Sampling Data Report: Fall Sampling at OU4 Landfill December 2002, OU4, North Wind, January-03
- FINAL Sparge Curtain Source Area & Horizontal Well Remediation System 2001 Annual Rpt, Northwind, Jan-03
- Final Source Area Treatability Study, 2001 Annual Report, CH2, January-03
- Investigated Derived Waste Report OU4 Landfill September-October 2002, OU4, North Wind, January-03
- Investigated Derived Waste Report OU4 Coal Storage Yard September 2002, OU4, North Wind, January-03
- FINAL Area-wide Community Involvement Plan, January 2003, ENSR, January-03
- IDW Report Coal Storage Yard, September 2002, OU4, North Wind, February-03
- IDW Report Landfill, September-October 2002, OU4, North Wind, February-03
- Work Plan for Confirmation Soil Sampling, Phyto Study Site Closure, January 2003, OU1, Swaim , February-03
- Tech Memo: Level Survey of Soil & G/W monitoring points at DRMO Yard, OU2, Northwind, Mar-03
- OU5 WQFS CLOSES Evaluation , CH2M Hill, May-03
- Final 2002 Sediment Quality Monitoring Program, Chena River Aqua Asmt Prog, FWA, CH2M Hill, Apr-03

2003 (cont.)

- Final SSHP & QAPP for 801 Drum Burial Site GW Monitoring, FWA , OU1, ENSR, May-03
- 2002 Monitoring Report, OU3, FES, May-03
- Final Work Plan for Groundwater Monitoring and Data Analysis at Landfill October 2002, OU4, North Wind, May-03
- Bldgs 2111/2 Operations, Maintenance & Monitoring 2003 Work Plan, ENSR, May-03
- Operations, Maintenance & Monitoring Manual: Bldgs 2111/1 Treatment Systems, ENSR, May-03
- Proposed Spring 2002 soil boring locations 2111/2112, FWA , ASCI/NANA, May-03
- FINAL Monitoring Report, 2002 Treatment System, Bldgs 2111/2 FWA, ENSR, Jun-03
- FINAL Long-Term Monitoring Plan, Bldg 1002, et. Al., ENSR, Jun-03
- FINAL OU5 Quality Assurance Program Plan , Northwind, Jun-03
- MP 2.7 and 3.0 Treatment Cell Decommissioning and Sampling Plan Jan 2003, OU3, FES, June-03
- FINAL Operations, Maintenance & Monitoring Work Plan for 2077, Bldg 2077, et al , ENSR, Jun-03
- Tech Memo: Installation of Monitoring Wells at the North Post Site, FWA, CH2M Hill, Jun-03
- Tech Memo Groundwater Probe Sampling and Analysis, DRMO-4 Sub-area Sept 2002, OU2, North Wind, Jun-03
- Fort Wainwright Geohydrologic Network Status Report 1998 through 2002, ENSR, June
- Tech Memo SVE Well Sampling, 3-Party AS/SVE System, September 2002, OU2, North Wind, Jun-03
- Tech Memo: DRMO-1 Historical Data Review, OU2, Northwind, Jul-03
- Annual Report Addendum, Operable Unit 2, dated May 27, 2003, OU2, North Wind, Jul-03
- 2003 Work Plan, Operable Unit 3, Fort Wainwright, Alaska dated June 2003, FES, July
- Operable Unit 3 Spring 2003 EDF, EDCC files, tech memo, sampling results, chain of custody forms, FES, July-03
- Final Decommissioning and Removal of 3 Treatment Systems Work Plan dated June 2003, 1168, 1002 & 3483, ENSR, July-03
- Long-Term Monitoring Plan for FWA Two-Party Sites dated June 2003, ENSR, July-03
- Final 2003 Treatment and Monitoring Operations Work Plan, OU2 dated August 2003, North Wind, Aug-03
- Final Groundwater Monitoring and Data Analysis at the Landfill Source Area Work Plan, OU4, North Wind, Aug-03
- Final Groundwater Monitoring and Data Analysis at the Coal Storage Yard Source Area Work Plan, OU4, North Wind, Aug-03
- Draft 2003 Annual Groundwater Monitoring, 801 Drum Burial Site, ENSR, Aug-03
- Draft Bldg 2077 Contaminated Soil Removal Work Plan, Swaim , Sep-03
- Draft Bldg 2077 Contaminated Soil Removal Site Specific Safety and Health Plan, Swaim , Sep-03

2003 (cont.)

- Draft Bldg 2077 Contaminated Soil Removal Environmental Protection Plan, Swaim , Sep-03
- Draft Bldg 2077 Contaminated Soil Removal Sampling and Analysis Plan Amendment, Swaim , Sep-03
- Draft Decommissioning Monitoring Wells at FWA and FRA Work Plan, Shannon & Wilson, Sep-03
- Draft OU5 Annual Report, March 2002-February 2003, North Wind, Sep-03
- Final Work Plan Addendum for Decommissioning of the Bldg 1168 (3Party) Site, ENSR, Sep-03
- Fort Wainwright Groundwater Monitoring Program 2003 Report, CH2M Hill, Oct-03
- Technical Memorandum, North Post Site Review, CH2M Hill, Oct-03
- Final Management Plan, Decommissioning Monitoring Wells FWA, FRA, Shannon & Wilson, Oct-03
- Final 2002 Annual Report, Operable Unit 2, North Wind, Oct-03
- Draft 2004 Treatment and Monitoring Operations Work Plan OU2, North Wind, Oct-03
- Building 2077 Contaminated Soil Removal Work Plan, Swaim, Oct-03
- Building 2077 Contaminated Soil Removal Preliminary Lab Analysis Backfill Material Report, Swaim, Oct-03
- Building 2077 Contaminated Soil Removal Environmental Protection Plan, Swaim, Oct
- Building 2077 Contaminated Soil Removal Site Safety and Health Plan, Swaim, Oct-03
- Draft System Decommissioning at Bldgs 1168, 1002, and 3483, ENSR, Oct-03
- Draft CLOSSES Evaluation, DRMO Yard, CH2M Hill, Nov-03
- Sampling Data Report Fall 2003, OU4 Coal Storage Yard, North Wind, Nov-03
- Sampling Data Report Fall 2003, Landfill, North Wind, Nov-03
- Investigative-Derived Waste Report for the OU4 Landfill, September 2003 GW event , North Wind, Nov-03
- Investigative-Derived Waste Report for the OU4 CSY Sept-Oct 2003 Well Decom and GW event, North Wind, Nov-03
- Neely Road POL Site Release Investigation Final Report, ENSR, Dec-03
- Draft Tech Memo - Results of Indoor Air Monitoring at Building 1060, North Wind, Dec
- Sampling Data Report for Bldgs 2111/2112 Site GW Monitoring and Soil Borings, ENSR, Dec-03
- Draft Work Plan Addendum, Bldgs 1002, 1168, 2250, 2077 and Neely Road, ENSR, Dec-03
- Draft Investigation of Fuel Contamination at Neely Road and Bldg 2250 LIF, COE, Dec
- Well Decommissioning Letter Report for CSY, OU4, North Wind, Dec-03
- Well Repair Letter Report for Landfill, OU4, North Wind, Dec-03
- Draft CSY Remediation System Decommissioning Work Plan, OU4, North Wind, Dec
- CDQR Fall 2003 GW Monitoring at the Landfill, OU4, COE, Dec-03
- CDQR Fall 2003 GW Monitoring at the CSY, OU4, COE, Dec-03
- Draft Tech Memo: DRMO Yard GW Trichloroethene/Tetrachloroethene Concentration Trend Analysis, North Wind, Dec-03

2003 (cont.)

- Final Tech Memo - Flow Meter Replacement DRMO 3-Party AS/SVE Treatment System, North Wind, Dec-03

2004

- Replacement Cover - 2002 Status Report for Blgs 1002, 1168, and 2250, ENSR, Jan
- Revised Draft 2003 Annual GW Monitoring Report 801 Drum Burial Site, ENSR, Jan-04
- Draft 2004 OU3 Work Plan, FES, Jan-04
- Draft CLOSES Evaluation, 801 Drum Burial Site FWA, CH2M Hill, Jan-04
- Final CLOSES Evaluation Bldg 1168 Site, FWA, CH2M Hill, Jan-04
- Annual Report: VOC Emission Tracking Program for 2003 IRP Treatment Systems FWA, ENSR, Jan-04
- 2003 Operation, Maintenance and Monitoring Report Bldgs 1002, 1168, 2250 and 2077 FWA, ENSR, Jan-04
- CD ONLY: 2003 Fall Groundwater Sampling Event, EDF corrected files dated, FES, Jan-04
- Draft 2003 Landfill Annual Report, OU4, FWA, North Wind, Feb-04
- Draft 2003 Operation, Maintenance and Monitoring Report for Buildings 2111/2112, FWA, ENSR, Feb-04
- Draft 2003 Coal Storage Yard Annual Report, OU4, FWA, North Wind, Feb-04
- Tech Memo: Documentation of OU3 FEFLOW Model, FWA, CH2M Hill, Feb-04
- Horizontal Well Remediation System AS Probe Monitoring Report, OU5 FWA, North Wind, Feb-04
- Draft 2003 OU2 Annual Monitoring Report, FWA, North Wind, Mar-04
- Final 2004 Work Plan OU3, FWA, FES, Mar-04
- Draft Removal Action Report Building 2077 Contaminated Soil Removal FWA, Coe-Swaim-FES, Mar-04
- Draft Remedial Action Report for POL Source Removal FWA, BNCl, Mar-04
- Final 2004 Treatment and Monitoring Operations Work Plan, North Wind, Mar-04
- Draft Investigative-Derived Waste Management Area 2003 Annual Report, North Wind, Mar-04
- Final Technical Memorandum Results of Indoor Air Monitoring at Building 1060, North Wind, Mar-04
- Final CLOSES Evaluation DRMO Yard, FWA, CH2M Hill, Mar-04
- Draft CD CLOSES Evaluation Building 2250 FWA, CH2M Hill, Mar-04
- Draft CD CLOSES Evaluation North Post FWA, CH2M Hill, Mar-04
- Final 2003 OU3 Annual Monitoring Report, FES, Mar-04
- Final CLOSES Evaluation 801 Drum Site, FWA, CH2M Hill, Apr-04
- Draft 2004 Work Plan for POL Source Removal, FWA, COE- BNCl, Apr-04
- Final Report Treat System Decom Bldgs 1168, 1002, and 3483, COE-ENSR, Apr-04
- Sampling Data Report for Bldgs 2111/2112 Site GW Monitoring, COE-ENSR, Apr-04
- Draft Remedial Action Report for POL Source Removal, COE-BNCl, Apr-04
- Final Coal Storage Yard Remediation System Decommissioning Work Plan, COE-North Wind, Apr-04

2004 (cont.)

- Final 2003 OM&M Report for Bldgs 2111/2112, COE-ENSR, May-04
- Draft Bldg 2062 and Former Bldg 2063 Site Closure Plan, COE-Hart Crowser, May-04
- EDMS Deliverable for Spring 2004 Bldgs 2111/2112, COE, Jun-04
- Final CLOSES Evaluation MP 3.0, CH2M Hill, Jun-04
- Final CLOSES Evaluation MP 2.7, CH2M Hill, Jun-04
- Final CLOSES Evaluation North Post Site, CH2M Hill, Jun-04
- Birch Hill UST Site Draft Remedial Investigation, Ecology and Environment
- Tech Memo: Groundwater Monitoring, Bldgs 1172, 3425, 3481, 5110, Alaska District Corps of Engineers
- Final, Status Report and Respiration Testing, Bldg 2077, ENSR
- Final, Status Report and Respiration Testing, Bldgs 1002, 1168 and 2250, ENSR
- Technical Memorandum, Summer 2003 Sampling Data Report, OU3, FES
- 2003 Fall Groundwater Sampling Event OU3 EDF files, EDMS files, FES
- Tech Memo: Sampling Data Report OU3 2004 Winter Groundwater Sampling Event, FES
- Tech Memo: Sampling Data Report OU3 2004 Winter Groundwater Sampling Event EDF and Draft EDMS, FES
- Final 2003 Annual Groundwater Monitoring, 801 Drum Burial Site, COE-ENSR
- Final LIF Investigation Neely Road and Bldg 2250, COE
- Sampling Data Report, OU3 Spring Sampling Event 2004, COE-FES
- EDF and draft EDMS deliverables: Sampling Data Report, OU3 Spring Sampling Event 2004, COE-FES
- Draft CLOSES Report Bldg 5110, CH2M Hill
- Draft 2004 Landfill Work Plan, SAP, QAPP, HSP, FES
- Draft 2004 Work Plan for Treatment/Monitoring Activities Bldgs 1002, 1168, 2250, 2077 and Neely Road, COE – ENSR
- Draft 2004 Work Plan Addendum OM&M for Bldgs 2111/2112, COE-ENSR
- Draft Bldg 2060 Closure Plan dated May 2004, COE-Hart Crowser

2005

- ENSR, 2004 Operation, Maintenance and Monitoring Report, BLDG 1002, 1168, 2250 and 2077, and Neely Road POL Site, January 2005
- FES, 2004 Sampling Report Two-Party Sites Former BLDG 3564, North Post, Former BLDG 2060, and BLDG 2062/Formal BLDG 2063, January 2005
- USACE, 2004 Sampling Report for Two-Party Sites, January 2005
- ENSR, Annual Report VOC Emission Tracking Program for 2004 IRP Treatment System, January 2005
- CRREL, Geologic Setting of the Birch Hill Tank Farm, OU3, January 2005
- North Wind, FINAL OU5 Annual Report March 2002 to February 2003, February 2005
- USACE, DRAFT Investigation of Fuel Contamination at the BLDG 2250 Site Using Laser-Induced Fluorescence Probing Technology, March 2005
- ENSR, 2005 Quality Assurance Project Plan Addendum 801 Drum Burial Site OU1, March 2005
- USACE, 2005 OU3 Work Plan, March 2005

2005 (cont.)

- North Wind, DRAFT Final Horizontal Well Remediation System Operation, Maintenance, and Monitoring Manual OU5, March 2005
- ENSR, FINAL Work Plan Addendum 2005 Operation, Maintenance and Monitoring for BLDG 2111/2112, April 2005
- FES, Technical Memorandum Decommissioning of Valve Pit B and Valve Pit C Treatment Systems, April 2005
- FES, FINAL 2004 Fall Sampling Report Groundwater Monitoring and Data Analysis at the Landfill Source Area OU4, May 2005
- FES, 2005 Work Plan Groundwater Monitoring and Data Analysis at the Landfill Source Area OU4, May 2005
- FES, 2005 Work Plan Groundwater Monitoring and Data Analysis at the Landfill Source Area OU4, May 2005
- BNCI, FINAL Work Plan for Pipeline Tracing and Survey; Petroleum, Oil and Lubricants (POL) Source Removal; 2005 Field Season, June 2005
- ENSR, FINAL 2004 Operation, Maintenance and Monitoring Report BLDGs 2111/2112 Treatment Systems, July 2005
- ENSR, Semi-Annual Report VOC Emission Tracking Program for 2005 IRP Treatment Systems, July 2005
- MACTEC, DRAFT Work Plan Neely Road AS/SVE System Construction and Operation, August 2005
- North Wind, FINAL 2004 Annual Report Investigative-Derived Waste Management Area, August 2005
- FES, Draft Work Plan, Birch Hill Tank Farm Lead Investigation, OU5 Remedial Area 1A, August 2005
- Swaim, Removal Action Report, Phytoremediation Study Site Decommissioning, September 2005
- Swaim, Removal Action Report Phytoremediation Study Site Decommissioning, September 2005
- Swaim, Milepost 2.7 and 3.0 Treatment Cell Decommissioning Report OU3, September 2005
- NorthWind, FINAL Technical Memorandum Monitored Natural Attenuation Sampling, East Quartermaster's Refueling Station, OU5, September 2005
- North Wind, FINAL Quality Assurance Program Plan Addendum Monitored Natural Attenuation Sampling, East Quartermaster's Refueling Station, OU5, September 2005
- MACTEC, FINAL Work Plan Neely Road AS/SVE System Construction and Operation, October 2005
- North Wind, FINAL Horizontal Well Remediation System OM&M OU5, November 2005
- North Wind, FINAL Source Area Remediation System OM&M OU5, November 2005
- FES, 2005 Sampling Report Two-Party Sites Former Bldg 3564, North Post, Bldg 2062/Former Bldg 2063 and Former Bldg 5110, December 2005
- Final Sampling Report, Former Building 3564, North Post, Building 2062/2063, FES, December 2005

2006

- Annual Report 2005 VOC Emission Tracking Program for IRP Systems, COE-ENSR, January 2006
- Final 2004 Annual Report for the 801 Drum Burial Site Groundwater Monitoring, COE-ENSR, January 2006
- Final OU2 Monitoring Well and Soil Boring Installation Work Plan, COE-North Wind, January 2006
- Final Chena Bend Sub-area Field Report, COE-North Wind, January 2006

FORT WAINWRIGHT

Installation Restoration Program Site Descriptions

FTWW-003

AIRCRAFT MAIN (BUILDING 2077)

SITE DESCRIPTION

FTWW-003 (Bldg 2077, part of OU1) is located near the southeast corner of the flight line on Montgomery Road. The building consisted of paint stripping and painting operations. This site was included in the OU1 RI/FS Management Plan and indicated BTEX, DRO, heavy metals, and PAH contaminants were present in soil and groundwater. The source area was transferred to the Two-Party Agreement for action, based on the results of the RI/FS.

Approximately one acre was treated for groundwater contamination; a SVE/AS system was installed in August 1997. The SVE/AS system was disconnected in 2002. Because contamination levels of DRO in the groundwater still had not decreased significantly, a soil removal (~400 cy) was conducted in 2003. Post excavation results indicated that operation of the system is no longer required.

The SVE system was removed in FY04 in conjunction with the soil removal. Benzene levels in one well remain above cleanup goals, but the plume remains stable.

CLEANUP STRATEGY

Continue to sample two wells every five years. Institutional controls and “no further remedial action planned” status will be negotiated with the state prior to next sampling event.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
DRO

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA	198101	198112
SI	198101	198112
RI/FS	199410	199610
RD	199703	200109
RA(C)	199706	200409
RA(O)	200310	200409
LTM	200410	201509

RIP: 200409

RC: 200409

FTWW-038

FT. WAINWRIGHT LANDFILL PLUME

SITE DESCRIPTION

The landfill is part of OU4. The source area (inactive portion) covers approximately 14 acres, and the area is located below Fort Wainwright's active landfill, located north of River Road. Gravel excavation began in the landfill as early as 1944. Landfill operations reportedly began in the 1950s; however, there are no historical records documenting the starting date of landfill operations. Un-segregated waste was disposed in the gravel pits and then burned. After the pits were filled with burned debris, they were covered.

The RI was completed in 1994. Sampling results indicated unacceptable levels of VOCs, SVOC and metals in the groundwater. Discharge to the Chena River and transport to downgradient wells were issues of concern.

The chosen alternative in the ROD (Sept 1996) was a phased approach. The first phase included capping the inactive portion of the landfill, which was completed in September 1997. The alternative also included natural attenuation, monitoring of groundwater, and institutional controls. The second phase would include evaluation of potential groundwater treatment, if contaminant levels increase (which has not been shown to date). Annual inspections of the landfill cap's integrity have taken place; the entire site has been fenced and it appears that no threat to the cap's integrity exists. The groundwater contamination (benzene and TCE) is localized and is not migrating.

A portion of this site is also identified as an MMRP site (FTWW-009-R-01).

CLEANUP STRATEGY

Long-term monitoring (for natural attenuation) and cap inspections will continue for an indefinite period. Institutional controls will remain in place. Wells are sampled semiannually as required by the Record of Decision and Post Operating Permit. Costs are shared with the Compliance Program.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
Solvents

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
PA/SI	198101	198112
RI/FS	199312	199511
RD	199609	199706
RA(C)	199706	199709
RA(O)	199709	203709

RIP: 199709

RC: Indefinite

DRMO SALVAGE YARD (PAGE 1 OF 2)**SITE DESCRIPTION**

The DRMO Salvage Yard is made up of 6 sub-areas. Four sub-areas with petroleum and solvent contamination are part of OU2; two other petroleum-contaminated areas were previously addressed in DRMO POL Sites (DRMO1 and DRMO5). However, because it appears that the plumes have commingled and can best be treated as one area, DRMO POL Sites (FTWW-091) will be merged into this site and closed.

Contaminants found on this site were solvents and petroleum in the soil and groundwater. The site is located along Badger Road, northwest of the intersection of Badger Road and the Old Richardson Highway, on the eastern boundary of Fort Wainwright. The salvage yard is a fenced compound covering approximately 25 acres. Spills occurred routinely at this source area. There is a potable water well in a deeper aquifer within the area of the solvent plume, is sampled six times annually, and has consistently met MCLs.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:

TCE, PCE, Petroleum
Hydrocarbons

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA/SI	198101	198112
RI/FS	199311	199606
RD	199704	199706
RA(C)	199707	199805
RA(O)	199709	201608
LTM	201611	202110

RIP: 199805

RC: 201608

The RI/FS was completed in October 1994. The OU2 ROD was signed in April 1997, with the chosen alternative being air sparging/soil vapor extraction. The OU2 three-party system was installed during the summer of 1997. Solvent contaminant levels have dropped significantly but remain above action levels. The plume appears to be stable. A CLOSES (exit strategy) evaluation was completed in Jan 2004 and concluded that the current systems managed under the OU2 three-party agreement and the DRMO1 (two-party agreement) were not effective in reaching the total area of contamination. The DRMO1 system was shut down; the OU2 three-party system operated in air sparging mode only. A soil gas survey was conducted to attempt to delineate the boundaries of soil contamination (solvents), however, the survey did not find a soil source. In 2006, the system was shut down and a more effective alternative is being evaluated.

The operation of the DRMO5 area system is no longer cost-effective and has been shut down. DRO remains above action levels, however the plume is stable. Long-term monitoring will continue.

PCE is above action levels at DRMO4. In 2004, a soil gas analysis was completed that delineated the source area. A treatment system is currently being evaluated.

FTWW-047

DRMO SALVAGE YARD (PAGE 2 OF 2)

A petroleum plume under Building 5010 (formerly 5001) was identified during the RI. Monitoring at the site has been ongoing since 1993. DRO and benzene are above action levels, but the plume appears to be stable. A preliminary design for an air sparging system has been completed.

A modified natural attenuation study began in 2006. Additional wells were installed in 2006 to delineate the petroleum plume and to help define what, if any, additional plans of action should be taken to reach site closure.

CLEANUP STRATEGY

Long-term monitoring will continue site-wide. New AS/SVE systems may be installed at DRMO4 and Bldg 5010. As a result of the natural attenuation study, other bioremediation techniques will be evaluated.

FTWW-050 NORTH POST SITE

SITE DESCRIPTION

The North Post Site was originally part of OU2. The RI indicated that POL was the only chemical present, so the site became part of the Two Party Agreement.

The site consists of contamination from USTs that supported a test center. It is located on a meander (oxbow) of the Chena River and it is approximately 10 acres, adjacent to family housing. Contamination investigations were initiated in September 1985, and an initial removal action at The North Post Site for POL soils was completed in the summer of 1993. The remedial investigation was completed in October 1994. Removal of polynuclear aromatic hydrocarbons (PAH) from surface soils was completed in fall of 1996. An air sparging/soil vapor extraction system was installed to treat the POL-contaminated soil and groundwater adjacent to the Chena River to the north and west. The system was shut off in November 2000 when it appeared action levels had been achieved. A review of the 2001 data indicated that sampling could be reduced to an annual event and the system could remain off.

However, upon review of the 2002 sampling results, it was discovered that contamination had increased, and evidence of sheen, previously undetected, was found in one well.

A site visit early in 2003 revealed a new geomorphological feature: a trench had formed on the site in an area not previously treated. New wells were installed in June 2003, and were sampled in August, along with the remaining four existing wells. A historical document search was completed in FY04 to consolidate all of the old data. The new wells revealed no new information or findings. A CLOSES evaluation was completed in June 2004 with a recommended long term monitoring plan.

In 2005, high levels of metals and petroleum exceeding state standards were found during a geotechnical investigation for a family housing project.

CLEANUP STRATEGY

Long-term monitoring will continue and LUCs will be evaluated.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:

Petroleum Hydrocarbons, Metals, PCBs

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
PA.....	198701	199010
SI	199001	199010
RI/FS	199311	199604
RD	199604	199604
IRA	199604	199604
RA(C)	199604	199604
RA(O)	199604	200109
LTM	200110	201109

RIP: 199604

RC: 200109

FAIRBANKS FUEL TERMINAL (PAGE 1 OF 2)**SITE DESCRIPTION**

The Fairbanks Fuel Terminal is part of OU3. This site is the most complex site on Fort Wainwright, because of its geology, the relatively large size of the estimated release, and off-site impacts. This site covers ~250 acres in the northwest corner of Fort Wainwright.

The original RI and ROD (1996) focused on the base of Birch Hill and the contaminants of benzene, ethylene dibromide (EDB), 1, 2-dichloroethane (1, 2 DCA) that exceeded federal drinking water standards. The ROD required SVE and air sparging.

Subsequent activities indicated a substantial increase in the aerial extent of contamination at the site, to include free product in fractured bedrock on Birch Hill. Approximately 3,000 gallons of free product have been recovered from the bedrock aquifer, however an undetermined amount remains. Results of FY98 field season sampling events determined that large amounts of contamination from EDB and 1,2 DCA are located on Birch Hill. These contaminants are a continuing factor in contaminating the groundwater within the alluvial aquifer. Further investigation during 1999-00 indicated that there was off-post migration from the Tank Farm.

Bottled water was provided to bordering churches in 1995; contamination has steadily decreased. Contamination below cleanup levels remains in one drinking water well, which is monitored semi-annually.

An air-sparging curtain was installed in 1999 and expanded in 2000 along the fence line to treat groundwater before it migrated off-post. A product recovery system was installed on Birch Hill in 2000 and was modified in 2001 to capture product prior to moving down hill and subsequently off-post. An ESD was completed in September 2002, to include product recovery implementation, additional investigation and modeling.

In 2003, additional geophysical investigations and tracer studies occurred and additional wells were installed. Groundwater flow models were developed in FY04 to better

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
Petroleum Hydrocarbons, VOCs,
Metals

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA/SI.....	198801.....	199101
RI/FS.....	199209.....	200009
RD.....	199509.....	200106
IRA.....	199607.....	199607
RA(C).....	199607.....	200109
RA(O).....	199709.....	201009
LTM.....	201010.....	202009

RIP: 200109

RC: 201009

FTWW-055

FAIRBANKS FUEL TERMINAL (PAGE 2 OF 2)

understand complex flow patterns in the presence of permafrost and bedrock structures. Geophysical investigations in FY04 indicated that a data gap is present and investigation is needed to determine the eastward flow in the bedrock. Three bedrock monitoring wells were installed during the FY05 field season.

Army Alaska has worked with the private land owners adjacent to the site to install and monitor five wells on their property. Groundwater flows predominantly away from the property. To date, all indications are that existing treatment systems (soil vapor extraction/air sparging, along with vacuum-enhanced free product recovery) on Fort Wainwright have achieved their goal, and contaminant levels in off-post wells have remained consistently below any regulatory cleanup levels since July 2000. The systems were turned off in 2006 for rebound evaluation and results are pending.

The cleanup goals for the Truck Fill Stand and contamination from Bldg 1173 (sub-sites within Birch Hill), have been achieved.

NOTE: The ASTs within the Fairbanks Fuel Terminal boundaries have been split out into a separate AEDB-R Number, FTWW-096, and is part of OU5. The Tank Farm dates back to 1943.

CLEANUP STRATEGY

Update the conceptual site model (evaluate fate and transport of contaminant within permafrost and fractured bedrock) and prepare a Comprehensive Summary Report. This report will document and evaluate remedial actions to support a request for a technical impracticability (TI) waiver.

Continue maintenance of product recovery systems, continue rebound studies, long-term monitoring and quarterly evaluation of site status to determine contaminant trends and to ensure no off-site migration.

FTWW-067

801 DRUM BURIAL SITE

SITE DESCRIPTION

FTWW-067 is part of OU1. The site is located between the west bank of the Chena River and Fegree Road and south of the Alaska railroad bridge. The site consists of approximately 20 acres. The site was discovered during the initial excavations for the 801 contract housing construction project. In 1987, a large quantity of drums was removed from the construction area during initial construction. Another large drum removal was undertaken in 1992, during the construction of a storm drain from the housing area to the Chena River. Overall, over 200 drums were found, roughly half of which contained product. Sampling results show high levels of POL, pesticides and solvents in soil and groundwater. Additional drums were found and removed during the summer 1995 remedial investigation, and the follow-up 1996 investigation.

A ROD was signed in June, 1997, which recommended further removal action (if additional drums were found), monitoring for POL, pesticides and solvents, institutional controls, and natural attenuation for groundwater. Additional geophysical surveys were conducted in 1997. No additional drums were found.

Monitoring wells to determine potential contamination migration to the Chena River were installed; sampling is conducted every fifth year as recommended in the CLOSES evaluation. This represents a significant reduction from past sampling intensity.

IDW soils (850 cy) were remediated using phytoremediation versus shipping pesticide-contaminated soils off-post (ended in 2003). The soil was disposed of in the landfill.

Land use controls are in place that restrict groundwater use and digging in the area. The plume is considered to be stable; however, the contamination is still above cleanup levels. Pesticides are not expected to be at significant concentrations in the dissolved phase.

CLEANUP STRATEGY

Groundwater monitoring will continue every five years.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
Pesticides

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
PA	198101	198812
SI	199108	199201
RI/FS.....	199311	199610
RD.....	199709	200106
IRA.....	199208	199710
RA(C).....	199709	200106
RA(O).....	199710	203709

RIP: 200106

RC: Indefinite

FTWW-072

OIL WATER SEPARATOR AT BLDG 1168

SITE DESCRIPTION

FTWW-072 is part of OU2. The building was constructed in 1950 as a lubricant oil and vehicle storage facility and was converted to a POL laboratory around 1962. It was located near the western boundary of Fort Wainwright, adjacent to Trainor Gate Road. The building was demolished in 1998.

The primary source of contamination was from a former leach well connected to an oil/water separator system. The contamination covers an area of approximately 50 feet from the leach well. Contaminants found initially at this site included POL, solvents and heavy metals. Treating this source was especially critical because the site is located within 500 feet of the post boundary and within 1,000 ft of a public school.

Remedial action was undertaken for in situ treatment of contamination. The installation of an air sparge/soil vapor extraction system was completed in November 1994. The system was turned off in 1998 upon reaching remedial action goals, monitored for rebound, and none occurred. The system was decommissioned in 2003.

A CLOSES evaluation was completed in FY04. Rapid Optical Screening Tool (ROST) delineated soil contamination. The site was monitored in FY04. Benzene rebounded above remedial action goals in fall 2004 and January 2005. The surrounding area will be a part of family housing to support the Stryker Brigade Combat Team (SBCT).

CLEANUP STRATEGY

It is assumed that benzene rebound was an anomaly and is anticipated to drop below remedial action goals. Groundwater monitoring will continue through 2010, at which time site closure will be evaluated.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
DRO, Benzene

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
PA	198101	198112
SI	199203	199302
RI/FS	199311	199403
RD	199404	199405
IRA	199406	199406
RA(C)	199406	199504
RA(O)	199409	200009
LTM	200009	201009

RIP: 199504

RC: 200009

FTWW-083

RAILROAD OFF-LOADING FACILITY

SITE DESCRIPTION

FTWW-083 is part of OU3. The site is located south of the Tank Farm Facility across the Chena River and north of Gaffney Road. Pipes connect the Fairbanks Fuel Terminal (FTWW-055) and the Railcar Off-Loading Facility (ROLF). The facility covers an area of ~40 acres and dates back to 1939. The areas (6 subsites) associated with this source area included the off-loading headers and associated USTs, six valve pits and underground pipelines. All equipment has been removed. Approximately 7 inches of floating product was measured in numerous monitoring wells during the summer of 1996. The findings indicate subsurface contamination exists in hot spots throughout the area especially along the pipeline system.

Petroleum contamination was found in subsurface soils and groundwater surrounding Valve Pits A, B & C, along Front Street, and surface and subsurface soils and groundwater in the center of the site. The chosen remedial alternative in the ROD, signed in April 1996, was limited treatment in areas where highest levels of contamination exist. Five SVE/AS systems were installed during the summer of 1996, and one system in 1998. Expansion of the systems was determined necessary based on the operations and monitoring. An explanation of significant differences (ESD) was completed in September 2002 to address the greater extent of treatment required and the associated increase in costs.

As of 2003, three of the subsites have achieved remediation goals and are undergoing rebound assessments. The SVE/AS systems are still running at two subsites and an AS system is still running at the remaining subsite. In FY04, the systems in certain zones within subsites were shut off because the cleanup goals were met. The systems were expanded into other zones to treat newly found hot spots. One treatment system was decommissioned in FY04. A LTM Plan and site specific exit strategy was developed and incorporated into the annual comprehensive monitoring reports. Institutional controls are in place at this site. Property may be available for industrial use in FY07.

CLEANUP STRATEGY

Continue system operation as needed to achieve remedial objectives. Decommission two systems in FY06. Continue Long-term monitoring and maintain LUCs.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
Petroleum Hydrocarbons

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA.....	198101	198112
SI	198801	199101
RI/FS	199209	199509
RD	199508	200007
IRA.....	199106	199909
RA(C).....	199608	200007
RA(O)	199709	201009
LTM	201010	202510

RIP: 200007

RC: 201009

FTWW-084

FAIRBANKS-EIELSON PIPELINE SPILLS

SITE DESCRIPTION

FTWW-084 is part of OU3. The source areas at Pipeline Mileposts 2.7 and 3.0 are located at the base of the abandoned Birch Hill USTs, east of the Tank Farm Facility, on the eastern side of Birch Hill. Previous operations at an abandoned truck fill stand contaminated the soil and groundwater in this area. Petroleum-related contamination was detected at various locations to a depth of 15 ft bgs.

The source area at Pipeline Milepost 15.75 (the intersection of Laurance Road and Robyn Drive) was caused by a spill that occurred in August 1989, when a portion of the Fairbanks-Eielson Pipeline was ruptured during road construction. A SVE/AS system was installed and has remediated this site. This system was removed and used at FTWW-055. Long-term monitoring continues at milepost 15.75 on a five year schedule.

The mileposts 2.7 and 3.0 RI was completed in 1996. Benzene and petroleum were detected well above cleanup levels in soil and groundwater. A treatability study, which included SVE/AS and oxygen releasing compounds, was not effective due to the nature of the soils (permafrost, tight claylike soil) in the area. Approximately 10,000 cy of soil at the mileposts were removed for ex situ treatment and disposal. In situ long-term monitoring continues at the actual milepost sites. Overall contaminant levels show no indication of decrease. Levels of benzene remain significantly above RAO.

An ESD was completed in September 2002, to document the changes in treatment and associated increased costs. Additional wells were installed to characterize the extent of contamination. No active remediation is planned, assuming the site conditions remain stable. The CLOSES evaluation was completed in June 2004. It recommended continued groundwater monitoring and a wetlands survey every five years. The first survey was conducted in 2005 and indicated no impact to the wetlands downgradient of either site.

CLEANUP STRATEGY

Additional wells are required to be installed every five years prior to sampling due to frost heaving. Continue long-term monitoring and complete a wetlands survey. Evaluate the site for a technical impracticability (TI) waiver.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
Petroleum Hydrocarbons

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA.....	198101	198112
SI.....	198801	199101
RI/FS	199209	199509
RD	199509	200009
IRA	199608	199708
RA(C)	199608	200009
RA(O)	199709	203709

RIP: 200009

RC: Indefinite

FTWW-085 UST, BLDG 5110

SITE DESCRIPTION

One underground storage tank (# 317) was located near Bldg 5110, the former Range Control Building, south of the Richardson Highway. The UST has been removed. Fuel was delivered to an apparently disconnected fill pipe several times over a two to three year period. Potentially contaminated soil was removed and free product was observed in the groundwater encountered in the bottom of the excavation. Further investigations indicated that discontinuous permafrost had substantially reduced the ability of the COCs to migrate. Product recovery was attempted in 1994 with limited success.

Monitoring of picket wells, installed between the source and the post boundary, was conducted. Picket wells are no longer sampled annually since they have been “non-detect” since their installation. Although levels remain above action levels, no receptors or migration have been identified. The site has been monitored annually, except for 2002 due to contractual issues.

The site was sampled again in August 2003. The plume appears stable. A CLOSES evaluation was completed in FY04 which recommended sampling every five years. Sampling will be conducted in 2005.

CLEANUP STRATEGY

Sampling will be conducted every five years starting in 2010.

STATUS

REGULATORY DRIVER: RCRA, Subtitle I (USTs)

RRSE: Low

CONTAMINANTS OF CONCERN: Petroleum Hydrocarbons

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
ISC/INV	198101	198112
CAP	199205	199310
DES	199310	199409
IRA	199005	199510
IMP(C)	199605	199702
IMP(O)	199706	199809
LTM	199809	201509

RIP: 199706

RC: 199809

FTWW-087

UST, BLDG 2111 & 2112

SITE DESCRIPTION

This site consisted of seven underground storage tanks (50,000-gallon) and two aircraft refueling systems located at Buildings 2111 and 2112 next to taxiway 17. During the summer of 1996, Buildings 2111 and 2112 were demolished, and the leaking USTs along with associated piping were removed. An air sparging system was installed to address high levels of benzene contamination in groundwater.

In 2003, negotiations with ADEC resulted in agreement to focus on those hot spots, and turning treatment off in areas where levels are below action numbers. In addition, air sparging wells were successfully refurbished to increase air flow.

CLEANUP STRATEGY

In 2006, the existing AS system will be reconfigured to focus treatment on the two remaining hot spots. After achieving RAOs, a rebound study will be initiated. A long-term monitoring plan/exit strategy will be developed.

STATUS

REGULATORY DRIVER: RCRA, Subtitle I (USTs)

RRSE: Low

CONTAMINANTS OF CONCERN: Petroleum Hydrocarbons

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
ISC/INV	198101	198112
CAP	199205	199510
IRA	199406	199511
IMP(C)	199506	199607
IMP(O)	199607	200809
LTM	200810	201509

RIP: 199607

RC: 200809

FTWW-094

FORMER QUARtermasters FUELING SYSTEM-EAST/WEST

(PAGE 1 OF 3)

SITE DESCRIPTION

WQFS:

The west section of the former Quartermaster's fueling system (WQFS) is located between Front Street and Gaffney Road. A benzene plume covered approximately 50 acres. The area runs from the northern boundary of the taxiway to the Chena River. Initial groundwater samples collected indicated presence of diesel range organics, gasoline range organics, solvent (TCE), and benzene contamination. Investigations in 1994 identified several plumes (fuels and TCE) in the groundwater. A remedial investigation (RI) was completed in 1995.

The WQFS is divided into four areas:

- WQFS1 is just north of the taxiway and south of Gaffney Road
- WQFS2 is north of Gaffney Road and borders the Chena River to the north
- WQFS3 is west of the WQFS2 and also borders the Chena River and Gaffney Road
- WQFS4 is east of WQFS1 and was designated no further action under CERCLA and will not be discussed further in this plan.

At the WQFS2/3 sites, a treatability study using oxygen-releasing compounds was operated from 1996 to 1998, with limited success. An additional treatability study in WQFS1, using radio frequency and six-phase soil heating to enhance biodegradation and volatilization, was completed with mixed success. The decision was made that it would not be cost-effective for treatment of a greater area. In 1997, a 600 ft horizontal air sparging and soil vapor extraction treatability study began in WQFS1 area. A metal retaining structure, originally installed to prevent fuel from flowing to the river, was replaced by an air-sparging curtain in 1998 for the WQFS2 area.

Chosen alternatives in the ROD, signed in April 1999, at the WQFS include soil vapor extraction/air sparging, potential in situ soil heating in hot spots, potential operation of a downgradient air sparging trench, groundwater monitoring, monitored natural attenuation, and long-term monitoring. The treatability studies that were implemented as final remedial actions were the air-sparging curtain in WQFS2, and AS/SVE in other areas of the WQFS.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
Petroleum Hydrocarbons, VOCs

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA	198701	198712
SI	198709	198712
RI/FS	199502	199903
RD	199708	200009
IRA	199609	199807
RA(C)	199709	200109
RA(O)	199709	200908
LTM	200910	201809

RIP: 200109

RC: 200908

FTWW-094

FORMER QUARtermasters FUELING SYSTEM-EAST/WEST

(PAGE 2 OF 3)

Bench-scale tracer and biodegradation studies were conducted to better understand the persistence of the contamination. Groundwater modeling was conducted to better determine groundwater movement and contaminant transport and remedial action effects on the Chena River.

Post-ROD active remediation at the WQFS included the horizontal well air sparging/soil vapor extraction system (WQFS1); source area AS/SVE (WQFS1); and an air sparging/SVE curtain to protect the Chena River (WQFS2). Augmentation of these existing air sparging/SVE systems was completed in 2001 to better protect the River and attack the hot spots. This included expansion of the WQFS2 air sparging curtain to reach a hot spot in WQFS3.

A preliminary CLOSES evaluation was conducted on the overall WQFS site in 2002. This report recommended shutting down the WQFS 1 horizontal well system due to on-going silting problems; shutting down SVE in the WQFS1 and WQFS2 areas (including discontinuation of treatment into the WQFS3) because contaminant concentrations are approaching remedial action goals; and removal of the thermal oxidizers at the horizontal well system and the air-sparging curtain in conjunction with shutting down the SVE. The report also recommended reducing groundwater monitoring wells from 39 to 23 annually. A number of the AS/SVE wells were refurbished during the summer of 2003.

EQFS:

The east section of the former Quartermaster's fueling system (EQFS) is located between Front Street and Gaffney Road. A benzene and TCE plume covered approximately 40 acres that may have previously traveled under the Chena River. During a UST release investigation, gasoline and diesel groundwater contamination were encountered. Monitoring wells and microwells were installed surrounding this plume, and in 1989 and 1992, the results showed both petroleum and solvent contamination in the soil and groundwater. In 1994, a comprehensive evaluation of the EQFS was conducted, which included installing groundwater probes, soil borings, and monitoring wells. The groundwater data identified several small plumes (fuels and solvents), and the soil data confirmed solvent contamination. The remedial investigation was completed in 1996.

An air-sparging/soil vapor extraction system treatability study was installed at East Building 1060. Chosen alternatives for remedial action in the OU5 ROD at the EQFS included continued operation of the soil vapor extraction/air sparging system at east Bldg 1060 as a remedial action, groundwater monitoring, and monitored natural attenuation. The east 1060 system remediated the hot spot to below-action levels, and was refurbished and relocated to the west side of Building 1060 in 2000 to address solvent contamination in that area. An electric oxidizer has been installed at this site for off-gas vapor treatment.

FTWW-094

FORMER QUARtermasters FUELING SYSTEM-EAST/WEST

(PAGE 3 OF 3)

Due to the decrease in contamination at the West Bldg 1060 site, it has been recommended that the oxidizer be shut off. Indoor air sampling in Bldg 1060 showed no intrusion of contaminant vapors and therefore the oxidizer was shut off in FY04. Operation of the AS/SVE system will continue through FY05 when a rebound study will be evaluated.

Groundwater contaminant concentrations that have been addressed monitored natural attenuation are approaching remedial action goals. Agreement has been reached to monitor on an every five year basis, the year prior to the next five year review. The next full suite of sampling will therefore, take place in FY05.

OU5 Site-Wide:

Ecological impacts on the Chena River due to Army activities were addressed in the OU5/Post-Wide Risk Assessment. At that time, it was recommended that a sediment monitoring program be initiated to help determine what impact Army activities may have had on river life. The Chena River Aquatic Assessment Program (CRAAP) was developed, and included in the OU5 ROD. The program addressed monitoring changes to the river now that the remedial actions are in place. There have been two sampling events under this program, the latest completed in 2002. Results of this assessment remained largely inconclusive regarding invertebrate life in the river. Further sampling has been reviewed and the Army is in the process of writing a decision summary regarding the need for no further sampling under the CRAAP.

All systems have been turned off for rebound evaluations except for the air sparge curtain system. The air sparge curtain will operate through 2006 to ensure protection of the Chena River.

CLEANUP STRATEGY

Evaluate additional operation of air sparge curtain past 2006 and rebound evaluation. Continue long-term monitoring site-wide. Continue to negotiate reductions in sampling frequencies and parameters as results indicate.

FTWW-095 UST, BLDG 1002

SITE DESCRIPTION

One 500-gallon underground storage tank (UST # 202) was located near the Utility Lift Station, Building 1002. During its removal, approximately 50 cy of contaminated soil was removed at a depth of approximately 17 ft, where contaminated groundwater was encountered.

An air sparging/soil vapor extraction system was installed at this site. Downward trends in contaminant levels have continued at this site, but one persistent benzene hot spot remains. It was determined that the treatment system was no longer effective, and the system was turned off in 2001, and decommissioned in 2003. The same well remains above action levels.

In FY04, a downgradient well was installed, near the ball field, and no contamination was detected, and the plume is stable.

CLEANUP STRATEGY

Monitoring will be conducted on a five year schedule. Sampling will be conducted every other year to evaluate the benzene contamination.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Benzene

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
PA/SI	199405	199405
RI/FS	199508	199509
RD	199509	199509
IRA	199405	199405
RA(C)	199509	199509
RA(O)	199509	203709

RIP: 199509

RC: Indefinite

FTWW-096 BIRCH HILL ASTS

SITE DESCRIPTION

This site was split out from the Fairbanks Fuel Terminal (FTWW-055) and is part of OU5 and the Two-Party Agreement. Commingled lead and POL contamination were deferred from OU3 to OU5. FTWW-096 addresses only the lead-contaminated soils surrounding the ASTs.

The aboveground storage tanks are located on Birch Hill in the northwest corner of Fort Wainwright. The site covers approximately 110 acres and includes sixteen ASTs. The chosen alternative in the OU5 ROD, signed in April 1999, is land use controls. The entire area is fenced; an annual fence inspection takes place to ensure integrity of this control.

In 2005, an investigation was completed that delineated the lead in soil. Lead levels in soil range up to 14,500 ppm.

CLEANUP STRATEGY

Contaminated soil will be removed so Land Use Controls can be terminated. An explanation of significant differences (ESD) may be required prior to removal action.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	198109	198109
SI	198109	199109
RI/FS	199110	199903
IRA	199903	199903
RA(C)	200409	201209

RC: 201209

FTWW-097 UST, BLDG 1168

SITE DESCRIPTION

Building 1168 has two areas: a dry well (oil/water separator), which is being addressed under the Three Party Federal Facilities Agreement, OU2 for soil and groundwater contamination (FTWW-072) and UST 213 (FTWW-097).

One underground storage tank (UST #213) was located near former Building 1168, a vehicle storage facility/motor pool. UST 213, along with the associated piping, were removed in 1994. DRO was detected in the groundwater. A soil vapor extraction/air sparging system was installed (1995) as a treatability study to address groundwater contamination at this source area. Contamination levels decreased to levels where the system could be turned off in 2001 and decommissioned in 2003.

RAOs have been achieved.

CLEANUP STRATEGY

NFA

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Petroleum Hydrocarbons

MEDIA OF CONCERN: Soil
Groundwater

Phases	Start	End
PA/SI.....	199409.....	199409
RI/FS.....	199508.....	199508
RD.....	199505.....	199508
IRA.....	199409.....	199409
RA(C).....	199509.....	200102
RA(O).....	199510.....	200109
LTM.....	200110.....	200606

RIP: 200102

RC: 200109

FTWW-099 UST, BLDG 3564

SITE DESCRIPTION

Two 25,000-gallon underground storage tanks were removed (1994) and replaced with one 10,000 gallon UST at former Building 3564. This former building (demolished in 1999) was a stand-by generator plant, and is located up gradient of the post's drinking water supply wells. The extent of petroleum contamination in the soil and groundwater was defined in the Site Assessment report.

An air sparging/soil vapor extraction treatment system was installed in 1996, and attenuation measured. In 2000, it was determined levels had reached the point where system operation was no longer cost-effective. The system was shut off permanently, and decommissioned and moved in 2001.

Monitoring results post-system decommissioning have shown some rebound and remain above MCLs.

CLEANUP STRATEGY

Annual monitoring will continue until a downward trend has occurred and clean-up levels have been met for two consecutive events. Continue negotiating frequency and parameters of monitoring as results warrant.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
Benzene, DRO

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA/SI.....	199408	199408
RI/FS.....	199508	199601
IRA.....	199408	199408
RA(C).....	199603	199606
RA(O).....	199606	200109
LTM.....	200109	201509

RIP: 199606

RC: 200109

FTWW-100 UST, BLDG 2250

SITE DESCRIPTION

FTWW-100 is the former pesticide shed at the golf course on Fort Wainwright. A UST associated with Building 2250 was removed in the summer 1994. The only contamination identified was DRO in soil and groundwater.

A soil vapor extraction (SVE) system was installed in September 1995 to treat contamination believed to be associated with the UST. The SVE system was turned off in May 2004. This portion of the site has been closed.

Recent data, however, has shown an increase in the contaminant levels in another area of this site. A ROST investigation was conducted to delineate the remaining area of contamination. The ROST results were consistent with the summer of 2004 analytical results, and delineated the area of DRO contamination.

CLEANUP STRATEGY

Residual DRO contamination will be monitored on a five year schedule because the plume appears stable.

STATUS

REGULATORY DRIVER: RCRA, Subtitle I (USTs)

RRSE: Low

CONTAMINANTS OF CONCERN: Petroleum Hydrocarbons

MEDIA OF CONCERN: Soil, Groundwater

Phases	Start	End
ISC.....	198101	198101
INV.....	199203	199302
CAP.....	199509	199509
IRA.....	199408	199408
IMP(C).....	199509	199509
IMP(O).....	199509	200407
LTM.....	200509	201509

RIP: 199509

RC: 200407

FTWW-101

NEELY ROAD POL POINT

SITE DESCRIPTION

Building 3570 is the former Post Exchange Gas Station at the corner of Neely Road and 11th Street. The station operated between 1955 and 1981, dispensing fuel and servicing vehicles. The station utilized two 10,000 and one 550 gallon underground storage tanks (USTs), which were removed in 1987. The station was then used as an Auto Skill Center before being vacated in the late 1990s.

In May 2001, during foundation excavation for a veterinary clinic at this site, approximately 15 cubic yards of contaminated soil was removed and stockpiled on site, and later removed for off-site thermal treatment.

In 2002, a limited RI was conducted. Laboratory analysis confirmed the contamination as primarily benzene, PCE, and GRO above ADEC levels in soil and groundwater.

In the fall 2003, additional contamination delineation, using Rapid Optical Screening Tool (ROST) technology, was completed. A small-scale AS/SVE system was installed during the 2005 field season. During 2006, additional modifications were made to optimize the system.

CLEANUP STRATEGY

Full operation of the system for five years, then annual monitoring of 10 wells for seven years starting in 2011 is planned.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
Petroleum Hydrocarbons, VOCs

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA.....	200106	200108
RI/FS	200109	200409
RA(C)	200506	200509
RA(O)	200510	201009
LTM	201010	201705

RIP: 200510

RC: 201009

COMMUNICATION SITE (PAGE 1 OF 2)**SITE DESCRIPTION**

This site was discovered during housing construction project in 2005. Significant historical photo research has determined it is like a former communication site containing antenna arrays, barracks, and administrative buildings. It also appears that a portion of the site was a military disposal site. The geophysical surveys indicated numerous areas of scattered debris, as well as several concentrated areas of buried debris.

The site contains approximately 54 total areas. The following potential contaminants of concern have been detected at this site to date: metals, furans, dioxins, chlorinated benzenes, chlorinated phenols, MEC, solvents, POL, and polyethylene glycol. In addition, significant piles of metal debris have been uncovered and removed.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
PCB, VOCs, Petroleum
Hydrocarbons,

MEDIA OF CONCERN: Soil,
Groundwater

Phases	Start	End
PA.....	200503	200508
RI/FS	200509	201209
IRA	200706	200709

RC: 2001209

This site lies immediately adjacent to an existing housing development. Upon discovery of PCB contamination in 2005, construction work was immediately shut down, and significant amounts of wipe samples were taken to determine the extent of the PCB contamination spread, primarily of concern due to the ability of the PCB to be windborne when exposed. Adjacent houses were sampled, as well as playgrounds and the adjacent School Age Services facility. No levels of concern were found beyond the immediate construction site. A wipe sample grid of the entire construction site was conducted for PCBs, and temporary monitoring wells were installed.

Also in 2005, 100 cubic yards of PCB contaminated soils were removed and transferred to the proper disposal facility in the lower 48. Once it was determined that the high PCB contamination was fairly localized, the area was permanently fenced and construction work resumed at levels sufficient to allow winterization of the site.

Potential exposures to humans from the identified list of contaminations of concern exists through the planned residential use of the site. In addition, the housing development is close to the Post drinking water sources, and upgradient of the groundwater flow pathway leading north/northwest directly to the Chena River.

In addition to the PCB contaminated area, DRO was found at levels of concern at the northwestern corner of the site. Petroleum-contaminated soils unearthed during construction were moved to long-term storage pending additional sampling for the other identified potential contaminants of concern.

FTWW-102

COMMUNICATION SITE (PAGE 2 OF 2)

In 2006, construction will resume as agreed to by the Army cleanup team and State and EPA regulators. A site-wide investigation, to include sampling to depth (2005 sampling was generally surface sampling, 6" and above) and groundwater monitoring, will be completed by the end of 2006. When results are received and reviewed decisions will be made as to the need for a more in-depth investigation and/or remedial actions to be taken prior to habitation of the new homes. In addition, action will be taken to attempt to fully characterize and delineate both the PCB and DRO contaminated areas. Removal of remaining PCB contaminated soils will be evaluated in an attempt to minimize the fenced area. It is likely that monitoring around the houses in the DRO contaminated area will be required. Contaminated soils, initially thought to contain just DRO, will be sampled for other constituents to ensure proper disposal.

CLEANUP STRATEGY

Complete RI/FS and decision document; determine plan of action(s) for site.

IRP No Further Action Sites Summary

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
60	Motor Pool (Bldg 3421,3725,5195,3425)	All required cleanup complete. Received State and EPA concurrence.	199306
60	Motor Pool (Bldg 3485,3487)	All required cleanup complete. Received State and EPA concurrence.	199306
FTWW-004	DEH Main Shop (Bldg 3015)	All required cleanup complete. Received State and EPA concurrence.	199604
FTWW-005	Auto Hobby Shop (Bldg 1053)	All required cleanup complete. Received State and EPA concurrence.	199511
FTWW-007	Equip Main Facility (Bldg 3489)	All required cleanup complete. Received State and EPA concurrence.	198112
FTWW-008	Paint Shop (Bldg 3022)	Study completed; no cleanup required. Received State and EPA concurrence.	198112
FTWW-010	Laundry (Bldg 3025)	Study completed; no cleanup required. Received State and EPA concurrence.	198112
FTWW-011	Power Plant Coal Storage Yard, Bldg 3595	All required cleanup complete. Received State and EPA concurrence.	200304
FTWW-016	Shops (Bldg 1595)	All required cleanup complete. Received State and EPA concurrence.	198112
FTWW-017	Shop (Bldg 1553)	All required cleanup complete. Received State and EPA concurrence.	198112
FTWW-018	Photo Shop (Bldg 3009)	Study completed; no cleanup required. Received State and EPA concurrence.	198112
FTWW-019	North Point POL (Bldg 1565)	All required cleanup complete. Received State and EPA concurrence.	199511

IRP No Further Action Sites Summary (cont.)

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
FTWW-020	Power Plant 2 (Bldg 1561)	Study completed; no cleanup required. Received State and EPA concurrence.	198808
FTWW-021	Dark Room (Bldg 1045)	Study completed; no cleanup required. Received State and EPA concurrence.	198112
FTWW-023	Dyke Range	Study completed; no cleanup required. Received State and EPA concurrence.	199212
FTWW-024	PCB Spill In Building 3568	Study completed; no cleanup required. Received State and EPA concurrence.	199410
FTWW-025	Fort Wainwright Maneuver Area w/Ranges	Study completed; no cleanup required. Received State and EPA concurrence.	198112
FTWW-026	Pesticide Storage (Bldg 1599)	All required cleanup complete. Received State and EPA concurrence.	199610
FTWW-027	Pesticide Storage (Bldg 4072)	All required cleanup complete. Received State and EPA concurrence.	198112
FTWW-028	PCB Spill in Building 3568	All required cleanup complete. Received State and EPA concurrence.	198112
FTWW-037	Fire Fighting Training Area	All required cleanup complete. Received State and EPA concurrence.	199609
FTWW-048	Railroad Storage Yard	All required cleanup complete. Received State and EPA concurrence.	199208
FTWW-049	Contaminated Soil Pile (Power Plant)	All required cleanup complete. Received State and EPA concurrence.	199509
FTWW-052	UST, Bldg 3015 (264, #265)		199001
FTWW-053	UST, Bldg 1956 (#325)	All required cleanup complete. Received State and EPA concurrence.	199101

IRP No Further Action Sites Summary (cont.)

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
FTWW-054	UST, Bldg 4109 (#299)	All required cleanup complete. Received State and EPA concurrence.	199101
FTWW-056	UST, Bldg 3481(#275,#276)	All required cleanup complete. Received State and EPA concurrence.	199606
FTWW-057	UST, Bldg 3483 (#277,#278)	All required cleanup complete. Received State and EPA concurrence.	200109
FTWW-058	UST, Bldg 4057 (#303)	All required cleanup complete. Received State and EPA concurrence.	199505
FTWW-059	UST, Bldg 4065 (#305,#304)	All required cleanup complete. Received State and EPA concurrence.	198112
FTWW-060	UST, Bldg 4247 (#309)	All required cleanup complete. Received State and EPA concurrence.	199311
FTWW-061	UST, Bldg 5004 (UST 310)	All required cleanup complete. Received State and EPA concurrence.	199310
FTWW-062	UST, Bldg 1546 (227,228,229,230, 231,232,23)	All required cleanup complete. Received State and EPA concurrence.	200008
FTWW-063	UST, Bldg 1514 (#221,222,223,224)	All required cleanup complete. Received State and EPA concurrence.	199310
FTWW-064	Birch Hill Tank Farm UST#345-350	All required cleanup complete. Received State and EPA concurrence.	199605
FTWW-065	Fly Ash Pond	Study completed; no cleanup required. Received State and EPA concurrence.	199012
FTWW-066	Beacon Tower Landfill	Study completed; no cleanup required. Received State and EPA concurrence.	199211
FTWW-068	Open Burning/Open Retonation	Study completed; no cleanup required. Received State and EPA concurrence.	199803

IRP No Further Action Sites Summary (cont.)

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
FTWW-069	Water Treatment Plant Settling Pond	Study completed; no cleanup required. Received State and EPA concurrence.	199001
FTWW-070	Former EOD Range, Alpha Impact Area	Study completed; no cleanup required. Received State and EPA concurrence.	199410
FTWW-071	Trainor Gate Railroad Spur	Study completed; no cleanup required. Received State and EPA concurrence.	199201
FTWW-072	Oil Water Separator at Bldg 1168	All required cleanup complete. Received State and EPA concurrence.	200009
FTWW-073	Nike Sites B & C Cleanup	All required cleanup complete. Received State and EPA concurrence.	199411
FTWW-074	Drums Site West of DRMO - Site N-4	All required cleanup complete. Received State and EPA concurrence.	199610
FTWW-075	Birch Hill Radioactive Site	All required cleanup complete. Received State and EPA concurrence.	199303
FTWW-076	Golf Course Pesticide Shed – 2250	All required cleanup complete. Received State and EPA concurrence.	199511
FTWW-077	Bldg 1567	All required cleanup complete. Received State and EPA concurrence.	199306
FTWW-078	Tar Sites	All required cleanup complete. Received State and EPA concurrence.	199309
FTWW-079	Engineer Park Drum Site	All required cleanup complete. Received State and EPA concurrence.	199302
FTWW-080	Drums South Of Landfill	All required cleanup complete. Received State and EPA concurrence.	199302
FTWW-081	North Post Pipeline Break	All required cleanup complete. Received State and EPA concurrence.	199309

IRP No Further Action Sites Summary (cont.)

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
FTWW-082	Chemical Agent Dump Site	All required cleanup complete. Received State and EPA concurrence.	199510
FTWW-086	UST, Bldg 3562	All required cleanup complete. Received State and EPA concurrence.	199808
FTWW-088	UST, Bldg 1060	All required cleanup complete. Received State and EPA concurrence.	199008
FTWW-089	UST, Bldg 3425	All required cleanup complete. Received State and EPA concurrence.	199706
FTWW-090	UST, Bldg 3479	All required cleanup complete. Received State and EPA concurrence.	199306
FTWW-091	DRMO POL Sites	All required cleanup complete. Received State and EPA concurrence.	200309
FTWW-092	Transformer East of Bldg 3019	All required cleanup complete. Received State and EPA concurrence.	199410
FTWW-093	Farmer's Loop Permafrost Station	All required cleanup complete. Received State and EPA concurrence.	199306
FTWW-097	UST, BLD 1168	Conditional State closure letter received that site will be open while levels remain above cleanup levels.	200109
FTWW-098	UST, Bldg 1172	All required cleanup complete. Received State and EPA concurrence.	199510

Initiation of IRP: 1988

Past Phase Completion Milestones (active sites)

FTWW-003

PA/SI - 198112

RI/FS - 199610

RD - 200109

RA(C), RA(C) - 200409

FTWW-038

PA/SI - 198112

RI/FS - 199511

RD- 199706

RA(C) - 199709

FTWW-047

PA/SI - 198112

RI/FS - 199606

RD - 199706

RA(C) - 199805

FTWW-050

PA/SI - 199010

RI/FS, RD, RA(C) - 199604

RA(O) - 200109

FTWW-055

PA/SI - 199101

RI/FS - 200009

RD - 200106

IRA - 199607

RA(C) - 200109

FTWW-087

PA - 198812

SI - 199201

RI/FS - 199610

RD- 200106

IRA - 199710

RA(C) - 200106

FTWW-072

PA -198112

SI - 199302

RI/FS - 199403

RD - 199405

IRA - 199406

RA(C) -199504

RA(O) - 200009

Past Phase Completion Milestones (active sites)

FTWW-083

PA - 198112
SI - 199101
RI/FS - 199509
RD - 200007
IRA - 199909
RA(C) - 200007

FTWW-084

PA - 198112
SI - 199101
RI/FS - 199509
RD - 200009
IRA - 199708
RA(C) - 200009

FTWW-085

ISC/INV - 198112
CAP - 199310
DES - 199409
IRA - 199510
IMP(C) - 199702
IMP(O) - 199809

FTWW-087

ISC/INV - 198112
CAP - 199510
IRA - 199511
IMP(C) - 199607

FTWW-094

PA/SI - 198712
RI/FS - 199903
RD - 200009
IRA - 199807
RA(C) - 200109

FTWW-095

PA/SI - 199405
RI/FS, RD - 199509
IRA - 199405
RA(C) - 199509
RA(O) - 200209

FTWW-096

PA - 198109
SI - 199109
RI/FS - 199903
IRA - 201109

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates:

Decision Document: FTWW-102 2006, 2007

Projected Construction Completion Date of IRP: 2002

Projected Date for Removal from NPL: Unknown

Schedule for Next Five-Year Review: 2006

Estimated Completion Date of IRP (including LTM phase): Indefinite

Fort Wainwright IRP Schedule

(Based on current funding constraints)

AEDB-R #	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTWW-003	LTM									
FTWW-038	RA(O)									203709
FTWW-047	RA(O)									201608
	LTM									202110
FTWW-050	LTM									
FTWW-055	RA(O)									
	LTM									202009
FTWW-067	RA(O)									203709
FTWW-072	LTM									
FTWW-083	RA(O)									
	LTM									202510
FTWW-084	RA(O)									203709
FTWW-085	LTM									201509
FTWW-087	IMP(O)									
	LTM									201509
FTWW-094	RA(O)									
	LTM									201809
FTWW-095	LTM									203709
FTWW-096	RA(C)									
FTWW-099	LTM									201509
FTWW-100	LTM									201509
FTWW-101	RA(O)									
	LTM									201705
FTWW-102	RI/FS									
	IRA									

Prior Years Funds**Total Funding up to FY04: \$129,958K**

Year	Site Information	Expenditures	FY Total
FY05		\$3,569K	\$3,569K

Total Funding up to FY05: \$130,527K***Current Year Requirements***

Year	Site Information	Expenditures	FY Total
FY06		\$2,712K	\$2,712K

Total Funding Planned FY06: \$2,712K***Total Future Requirements: \$22,744K******Total IR Program Cost (from inception to completion of the IRP): \$155,983K***

FORT WAINWRIGHT

Military Munitions Response Program

Total AEDB-R MMRP Sites/AEDB-R sites with Response Complete: 10/1

AEDB-R Site Types

1 Landfill
7 Small Arm Ranges
2 Unexploded Munitions/Ordnance

Most Widespread Contaminants of Concern: UXO, Metals

Media of Concern: Soil

Completed REM/IRA/RA: None

Total MMRP Funding

Prior years (up to FY05):	\$ 397K
Current Year (FY06):	\$ 0K
Future Requirements (FY07+):	<u>\$45,945K</u>
Total:	\$46,342K

Duration of MMRP

Year of MMRP Inception: 2002
Year of MMRP RC: 2017
Year of MMRP Completion Including LTM: 2047

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

The MMRP and MMRP data base for Fort Wainwright was developed by the Army Environmental Center utilizing contractor support. The data base was developed utilizing information gathered from a site visit and record search during March 2002. This report was limited and additional information is being gathered to update the inventory and verify action location of ranges, usage and other areas of concern.

As such, cost utilizing the Army's intimating tool was used by AEC and their contractor to develop preliminary projected cost. It is anticipated after completion of the site investigation in 2006 that future cost will be calculated to reflect actual site conditions.

MMRP Cleanup Exit Strategy

A SI will be conducted at three of the sites (FTWW-001-R-01, FTWW-002-R-01, and FTWW-008-OR-01) beginning in 2005 and will be completed in 2007. In 2009, a RI/FS will be conducted on all of the sites to reevaluate site location, usage, area and update inventory and future liabilities. In areas where necessary, additional on site evaluations (i.e. sampling) will occur to ensure safety of the area.

FORT WAINWRIGHT

Military Munitions Response Program Site Descriptions

SITE DESCRIPTION

This is a closed range, still owned by the US Army, comprising 364 acres in the southeastern part of the cantonment area, and lies entirely within the golf course. Small arms and pyrotechnics were expended at this training range, which was used from approximately 1941 to 1971.

No documented remediation of this range has been conducted.

CLEANUP STRATEGY

Additional historical and a real photography review will be conducted. If necessary, investigations are planned if it is determined that UXO clearance and Institutional Controls are expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA.....	200203	200305
SI	200507	200709
RI/FS	200910	201009
RD	201510	201609
RA(C).....	201610	201709
LTM	201710	204709

RC: 201709

SITE DESCRIPTION

This is a closed range, still owned by the US Army, comprising 157 acres in the southwestern part of the cantonment area where residential development now exists. Small arms and pyrotechnics were expended at this training range, which was used from approximately 1942 to 1972.

No remediation of this range has been conducted.

CLEANUP STRATEGY

Additional investigation is planned. UXO clearance and Institutional Controls are expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	200203	200305
SI	200507	200709
RI/FS.....	200910	201009
RD.....	201510	201609
RA(C).....	201610	201709
LTM.....	201710	204709

RC: 201709

SITE DESCRIPTION

This is a closed range, still owned by the US Army, comprising 82 acres on the western edge of the cantonment area where residential development now exists. Small arms and pyrotechnics were expended at this training range, which was used from approximately 1942 to 1983. A small portion of the former TA-107 extended to the north of the operational area that separates it from the southern portion of the TA-107 range. For purposes of this report, it was included as one closed range because it was historically used as one training area. Most of this area has been cleared and grubbed of trees and vegetation.

CLEANUP STRATEGY

Additional investigation is planned. UXO clearance and Institutional Controls are expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	200203	200305
SI	200507	200709
RI/FS	200910	201009
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC: 201709

FTWW-004-R-01

ARCTIC SURVIVAL AREA SKI SLOPE

SITE DESCRIPTION

This is a closed range, still owned by the US Army, comprising 126 acres in the northern portion of the cantonment area where a recreational ski slope now exists. Small arms and pyrotechnics were expended at this training range, which was used as a range from approximately 1942 to 1958. It is unknown exactly where this area is located on Birch Hill.

This site is currently used as a maneuver training area.

CLEANUP STRATEGY

Additional investigation is planned. UXO clearance and Institutional Controls are expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	200203	200305
SI	200507	200709
RI/FS	200910	201009
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC: 201709

FTWW-005-R-01 MACHINE GUN SQUARE

SITE DESCRIPTION

This is a closed range, still owned by the US Army, comprising 0.78 acres in the south-central portion of the cantonment area where office development now exists. Small arms were expended at this training range, which was used from approximately 1948 until 1962.

No remediation of this range has been conducted.

CLEANUP STRATEGY

Additional Investigation is planned. Soil removal may be needed.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: Negligible Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	200203.....	200305
SI.....	200507.....	200709
RI/FS	200910.....	201009
RD	201510.....	201609
RA(C)	201610.....	201709

RC: 201709

FTWW-007-R-01 YUKON RIVER

SITE DESCRIPTION

This segment of the Yukon River is a transferred range, owned by the US Department of the Interior, comprising 109,441 acres in the western half of Alaska, to the west of Fort Wainwright. Bombs were dropped into the river between Ruby and 100 miles downstream of Galena by Fort Wainwright personnel as part of an effort to break up springtime ice jams between 1942 and 1945.

No remediation of this range has been conducted.

CLEANUP STRATEGY

Additional investigation is planned. Institutional Controls may be needed.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: High Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA.....	200203	200305
SI	200507	200709
RI/FS	200910	201009
RD	201510	201609
RA(C).....	201610	201709
LTM	201710	204709

RC: 201709

BOMBING FROM WAINWRIGHT TO GREELY

SITE DESCRIPTION

This is a transferred range, owned primarily by the state of Alaska, comprising 477,369 acres between Fort Wainwright and Fort Greely, and to the east of Fort Greely. Bombs and rockets were dropped either as part of training runs, or by Lend-Lease pilots trying to lighten their cargo loads. In addition, other training exercises in these areas resulted in the expending of rockets, small arms, and pyrotechnics. This range was used for various purposes between 1942 and 1973. It should be noted that in early 1941 Congress approved the Lend-Lease Program, which enabled the US to transfer arms and equipment to any nation (notably Great Britain, the Soviet Union and China) deemed vital to the defense of the US. One of the equipment transfer routes was from Alaska to Siberia, and Fort Wainwright (then Fort Ladd) was a critical link in that route. The dates that this area was used for bombing predated the independent US Air Force. At that time, the US Army Air Corps handled such flights. No remediation of this range has been conducted. This area is currently undeveloped, except for a few cabins.

CLEANUP STRATEGY

Additional investigation is planned. Institutional Controls may be needed.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA	200203	200305
SI	200507	200709
RI/FS	200910	201009
RD	201410	201509
RA(C)	201510	201609
LTM	201710	204709

RC: 201709

FTWW-009-R-01 SOLID WASTE LANDFILL

SITE DESCRIPTION

This is a closed munitions site, still owned by the US Army, comprising 3 acres in the northern portion of the installation cantonment area and is part of an active landfill. Inert practice bombs, many with spotting charges, were buried here between approximately 1970 and 1995.

Any material disposed of here is under the landfill cover.

CLEANUP STRATEGY

Additional investigation is planned. Institutional Controls may be needed.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: Serious Risk

CONTAMINANTS OF CONCERN:
UXO

MEDIA OF CONCERN: Soil

Phases	Start	End
PA.....	200203	200305
SI	200507	200709
RI/FS	200910	201009
RD	201510	201609
RA(C).....	201610	201709

RC: 201709

FTWW-010-R-01 DTA RIFLE RANGE

SITE DESCRIPTION

This is a transferred range located in an area known as the “keyhole,” and is currently an active Skeet Range. This range consists of approximately 7 acres and, according to the munitions response map, is located on Fort Wainwright’s Donnelly Training Area. This range was found on numerous maps dating back to 1950. Interviewees indicated that .30 caliber casings dating back to 1954 and 1956 were recently found in this area. One of the interviewees theorized that the munitions were expended in this area when the Army switched from the M1 Garand to the M14. Additionally, the range was identified on 1996 aerial photography.

Rifle Range 2 was transferred from Fort Greely as a result of the transfer of the operational area; site renamed from Rifle Range 2.

CLEANUP STRATEGY

Evaluate need for soil excavations for lead from spent small arms ammunition. Perform removals as needed and closeout site.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: Negligible Risk

CONTAMINANTS OF CONCERN:
Lead

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	200206	200305
SI.....	200507	200709
RI/FS	200910	201009
RD	201510	201609
RA(C)	201610	201709

RC: 201709

MMRP NO FURTHER ACTION SITE SUMMARY

AEDB-R#	Site Title	Documentation/Reason for NFA	NFA Date
FTWW-006-R-01	NE ARCTIC INDOCTRINATION AREA	Site has been made Response Complete as it has been determined to be FUDS eligible and has been transferred to the FUDS program. Transferred range about 1,706 acres in size now owned by private parties.	200606

Initiation of MMRP: 2002

Past Phase Completion Milestones

2003

PA, all MMRP Sites, May

Projected ROD/DD Approval Dates: Unknown

Projected Construction Completion: 2017

Schedule for Five Year Reviews: List next scheduled 5-year review

Estimated Completion Date of MMRP including LTM: 2047

Fort Wainwright MMRP Schedule

(Based on current funding constraints)

AEDB-R #	PHASE	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTWW-001-R-01	RIFS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTWW-002-R-01	RIFS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTWW-003-R-01	RIFS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTWW-004-R-01	RIFS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTWW-005-R-01	RIFS									
	RD									201609
	RA(C)									201709
FTWW-007-R-01	RIFS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTWW-008-R-01	RIFS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTWW-009-R-01	RIFS									
	RD									201609
	RA(C)									201709
FTWW-010-R-01	RIFS									
	RD									201609
	RA(C)									201709

Prior Years Funds**Total Funding up to FY04: \$200K**

Year	Site Information	Expenditures	FY Total
FY05	SI, All Sites	\$197K	\$197K
Total Funding up to FY05: \$397K			

Current Year Requirements

Year	Site Information	Expenditures	FY Total
FY06		\$0K	\$0K
Total Funding FY06: \$0K			

Total Future Requirements: \$45,945K***Total MMR Program Cost (from inception to completion of the MMRP): \$46,342K***

Community Involvement

The community surrounding for Fort Wainwright is the town of Fairbanks, Alaska, and the North Star Borough (approximate population 75,000). A Restoration Advisory Board was established in September 1997, when the first meeting convened. The RAB included members from the business community, installation residents, local environmental groups, and local residents. The RAB also included a member of the Tanana Chiefs Council, a local Native American organization. Government members include individuals from the Environmental Protection Agency, Region X and Alaska Department of Environmental Conservation.

RAB meetings for the restoration sites were initially held quarterly. Interest in the RAB decreased substantially; beginning in summer 2002, RAB meetings were held semi-annually.

The RAB was adjourned in July 2003 due to decreased attendance and upon the Community Co-Chair's recommendation and concurrence. The RAB adjournment report was completed in 2004.

RAB members provided advice on cleanup studies and presented their areas of concern. RAB members were provided technical presentations to better understand the cleanup processes and technologies in place on Fort Wainwright. We continue to research ways to involve the community in the clean-up process in addition to the publication of a quarterly newsletter. The Area-wide Community Involvement Plan for Fort Wainwright was last updated in January 2003.

Community will be solicited for interest of reactivation of the RAB as warranted or requested once the MMRP program begins active progress.